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Advanced Management

MODERN MANAGEMENT

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MARCH 1951

A Challenge to Professional Management

THE PICTURE IS BLACK. All around us war clouds are gathering, just a few short years since the end of the World War II. World War II we fought as we did in World War I to end all war and to bring peace to the world forever. Ruthless aggression and threats of further aggression have aroused a realization that once more we must prepare and fight and win in one more effort to bring peace to the world. This time we must be sure that when we win there can be no more war on this earth. This we can and must do. Every once in a while on the street I hear someone say "What is the use? I give up. There can and will be nothing of value left in this country or in the world after the war so why worry or take the trouble to plan now." These folks, I am sure, are not grumbling about their own sacrifices, at least not any more than you and I do when we have those selfish moments — rather it is an expression of a feeling of futility — that even if we win the war our whole way of life will have been changed and even though we will have won the war we will have lost those things for which the war has been fought. We must not think in these terms.

I am realistic enough to know that this is as grave a crisis as this nation ever faced, but I don't think we ever accomplished anything of any importance when we assumed as we began that no matter what we did we could not win. We can and we must win the war, we can and we must win the peace and we can and we must preserve these values of our American Way of Life which have been our heritage and which mean more to every thinking American than any amount of material wealth which he may have or hope to acquire.

The cradle of faith in all things, in which we as individuals and as a nation believe, is in the home. This faith must be properly nurtured in the home, it must be cultivated further in the schools, and must be based on some form of religious expression through the church of the individual's choice. The effect of the home, the school and the church on the mental, moral, physical and spiritual well being of the individuals who comprise our great country must not be overlooked—rather we must look to these institutions to lay the ground work on which business and industrial leadership may build a sound structure of management relationships. Unless an adequate base is thus provided the task of business and industrial leadership will be seriously hampered.

THE FIRST TASK that faces industrial leaders and managers today is that of providing the guns, the arms, the ammunition, the planes, the tanks—the best we know how to produce—to give our boys the fullest possible support as they represent us on field of battle. We must be there with what they need and more, before they need it. The function of supply must be effectively discharged. This must be accomplished under emergency conditions. Leadership must find the way to do the job, to get out the production—in spite of shortages of materials and manpower the quantity must be stepped up and the quality must be maintained at a high level. The urgency of our need can make possible the emergence of a greater maturity in leadership in business, in labor, and in government.

What can we do to insure this maturity?

FIRST, *we must raise the level of professional management.* We must practice, as well as "preach" the fundamentals of sound business management. We do a lot of talking in this professional Society of ours, about the scientific method of approach, about the necessity for laying careful plans, for organizing for the accomplishment of those plans, and for establishing controls which will insure objective attainment on schedule. Yet many times in practice the course of our action is dictated by expediency. If our profession is to be worthy of its name, we must be governed by the guiding principles, not by the needs of the moment.

SECOND, *we as professional managers must have a philosophy of management.* Yes, it goes back even further than this. We must have a philosophy of life—a design for living. How many of us have actually stopped to consider our purpose in life,—how we expect to accomplish this end—the rules by which we choose to govern ourselves on the way. As to a philosophy of management—we become so engrossed in daily routines and responsibilities that too seldom do we take time to sit back and look at where we have been, how we have reached the point where we now are, where we are going, the rules of the game and all the rest. Is unpatterned living, or management, scientific? Intelligent? Or even useful?

THIRD, *we must maintain high ethical standards.* I think it is one of the prime responsibilities of professional management today to continue to set a high ethical code and do everything possible to promote its adoption throughout American management. If we really work at it we can put business on a higher ethical plane.

FOURTH, *we must encourage creative contributions.* Recently, I read a report of a national meeting of clergy. One of the things on which there had been general agreement was the fact that there was little original thinking today. They pointed to a reluctance on the part of individuals to offer an idea or voice an opinion until they knew what the group felt—not wanting to be in disagreement with the group. This is one of the reasons, I believe, for the lack of creative work, but there are others. Two of which come to mind as being of greater importance than the rest. First, we are all naturally lazy, and it takes energy and effort to think. Second, this is an age characterized by a highly developed technology and we are always looking for shortcuts on present methods rather than for new ways.

FIFTH, *we must foster continuous, creative and scientific work in the field of human relations.* We all recognize that while our technological advances have been great our human relations developments have not kept apace. Until we bring them apace, further technological advancement of significance will be difficult.

WE MUST RECOGNIZE that human relations is a science touching on and overlapping and drawing heavily on the fields of psychology, sociology, anthropology, ethnology, ecology and others.

The individual must be treated as an individual, but not as though he were in isolation, because he is not. Group considerations, racial factors, environmental factors and others have a marked bearing. The day has passed when we can rely on rule of thumb methods and achieve the desired results. Research, laboratory studies, statistical analyses, and the scientific approach are vital prerequisites to progress in this field.

Human relations are of increasing importance in an emergency period. If the pattern of the past is repeated, the level of the work force will be materially lower, supervision will be inferior, health and safety problems more acute, training problems greater—to mention only a few. And of course the ultimate objective in human relations is morale.

FINALLY, we must have *purpose,* and that *devotion* to the *cause*—the defense of our heritage—around which we all must rally in this time of need.

DILLARD E. BIRD

Volume XVI No. 3

March 1951

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Advanced Management

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ADVANCED MANAGEMENT, published monthly by Society for Advancement of Management, 84 William Street, New York 7, N. Y., is merged with MODERN MANAGEMENT, and is successor to The Society for the Advancement of Management Journal, the Bulletin of the Taylor Society and of The Society of Industrial Engineers. Re-entered as second-class matter, December 23, 1949, at the Post Office at New York, N. Y., under the Act of March 3, 1879.
Copyright, 1951, Society for Advancement of Management.
Subscription rate: $8.00 per year. Single copies: 75 cents (members); $1.00 (non-members). An index to ADVANCED MANAGEMENT is published annually, and the contents are also indexed in *Industrial Arts Index* which is available at Public Libraries. Notification of address changes must be given four weeks in advance.

Technical Assistance team studying giant rotor of 40,000 kilowatt turbine generator. Austrian electrical engineers on visit to General Electric Plant, Schenectady, N. Y.

"Know-How" Works for Peace

By WILLIAM C. FOSTER

Administrator, Economic Cooperation Administration

How the ECA Technical Assistance Program is helping to break some of the shackles that held back production progress in Western Europe.

THE EXPERIENCE OF the Marshall Plan has underscored the truth proven in World War II, that "Only the strong can remain free." As we prepare to bolster our economic and military defenses in the hope of preventing another world war, we know well that strength for the free world depends on maximum productivity on the farm and in the factory.

Only such productivity can make possible the high morale that General Eisenhower recently declared was an essential to a healthy free Europe. Only such productivity can simultaneously produce abundant goods of peace, and the arms with which to make peace secure.

The maintenance of this maximum productivity is a principal concern of the Economic Cooperation Administration. To accomplish this, the ECA makes available to Western Europe some of the dollars necessary for the purchase of vital machinery and materials. Also, through a growing Technical Assistance Program, it shares with Europe the managerial skills and techniques which have contributed to the development of our own high productivity.

It is this Technical Assistance Program which is persuading Europe to a revolutionary acceptance of our belief in a mass market, supplied by an abundance of goods at low prices. To successfully carry the philosophy and the working-knowledge of this gospel to more and more Europeans, the ECA's Technical Assistance Program will depend increasingly on the support of America's labor-management team.

Designed to help Europe make best use of her industrial, agricultural and human resources, the program is winning increasing numbers of her tradition-bound industrialists to its support. In the first year of its operation, $7.3 millions were authorized for 161 TA projects. In the next three months alone, as the potential of the program became apparent, that figure rose to $8 millions for 315 projects.

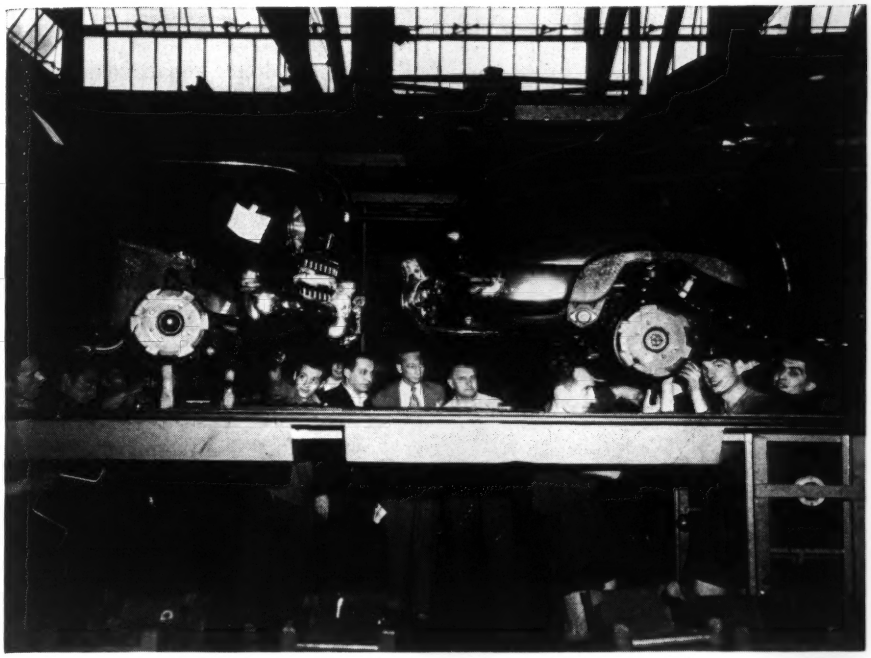
In capsule, the Technical Assistance Program provides a means for sharing our productive know-how with our free allies. It also opens to Europeans and Asians a new view of our present day culture.

BREAKING THE BOTTLENECKS

In practice, the program is equally simple. In each Marshall Plan country, staff members of an ECA mission, in close cooperation with representatives of government and industry, constantly study the productive scene. When production bottlenecks are located, the Mission reports its findings to the government concerned, and recommends measures for speeding up production. In all appropriate cases, the mission urges that the government select a team of specialists to visit the United States, and to view the recommended methods and practices in actual operation. Generally, the membership of these "Technical Assistance Teams" includes representatives of labor, management, and government.

American management and labor have almost literally queued up to cooperate with the program. On an average, each TA team spends six weeks in making a detailed study of the productive process in which it is interested. In the course of a tour, a team may visit as many as a dozen different industrial sites, to see, and to confer with specialists. When its tour is completed, each team returns to report its findings and to recommend a course of action. Neither government nor industry was at first convinced that change was either desirable or necessary. Nor, in fact, are they completely convinced today. In increasing number, however, Europe's producers are yielding to the persuasion of proof that know-how works, and are breaking, though often reluctantly, with their traditional methods. Significant too is the growing exchange of technical information between the countries of free Europe. It may be fairly said now, that the Technical Assistance Program is its own best salesman.

As evidence of this growing interest, teams of American specialists have en-



Italian and American union officers watch new Fiats move along assembly line at Turin, Italy. Exchange of ideas to promote effective democratic union development is encouraged.

gaged in fishing surveys for the Icelandic fishing industry. Others have surveyed the war-battered West German railway system. Still others have taken part in an agricultural productivity drive in Turkey, and have helped several other countries to develop their agricultural systems.

Teams of specialists from Western Europe have visited this country, and have observed a wide cross-section of the American productive scene. Among others, these teams have visited steel pipe and tube, meatpacking, farm machinery, cotton textiles, chemical and shoe manufacture industries. While these teams have had an eye for technological developments, they have, at the same time, concentrated on such productivity factors as factory layout, production scheduling, time and motion study techniques, mechanical aids, cost and quality control, marketing practices, and labor-management cooperation.

In addition, several teams have studied specialized aspects of American industry. French and Belgian labor teams have inquired into labor's contribution to high productivity. A British team concentrated on cost accounting methods. Others have surveyed industrial engineering methods.

LIVING STANDARD AND MARKETS

To explain the great productive gap between their economies and our own the touring TA teams list the following reasons:

1. The competitive nature of our industry.
2. The existence of our large mass market.
3. The consumer's insistence on high-quality, low price goods.
4. The producer's drive for simplification and standardization of products.
5. Strict cost control.
6. Agreement of labor-management, in spite of any other disagreement, that a continuously increasing output is necessary for a high standard of living.

As evidence that Western Europe's productive mind is beginning to break the shackles of tradition, these voluntary, and accurate, observations hold an almost revolutionary significance.

Western Europe's producers have long been "safeguarded" from competition by restrictive quotas and tariffs. Her 275 million peoples, a vast potential mass market, have been divided into small national markets. As a result, the production of high quality, low cost goods has been impossible. A literal handful of Europe's consumers has been able to buy high quality, luxury products at an extremely high cost. The great bulk, however, have been able to purchase only medium to low quality goods at a relatively high cost.

Europe's industrialists have enjoyed a comfortable profit. Their limited markets have been assured, not infrequently, by industry-wide agreement. They have

Machinery Study Group from the Netherlands gets "know-how" on tractor assembly.

felt no pressing need to increase their output by use of cost control and technology. And labor itself, whose standard of living would most benefit from increased production, has been continuously afraid to boost its output, for fear of "working itself out of work."

The breaking-away from these practices which is now in progress can lead to the development of a vigorously competitive, Europe-wide market in which an ever increasing number of people will receive the benefits of low cost, high quality goods. In simple terms, this means the better standard of living which will cause Europe's free people to reject Communism.

PRODUCTION AND FREEDOM

Western Europe has already taken tangible steps toward the development of such a market. Restrictive quotas and tariffs have been largely pruned away, and more than 50 percent of Western Europe's trade goods now move back and forth without restriction or tariff. The recent European Payments Union was another step toward such a freely competitive market. The Payments Union provides a means for the interchangeability of Europe's varied currencies, thus making it possible for each nation to buy and sell, and pay for goods in the markets of other European nations. The Schuman Franco-German proposal for pooling coal-steel resources is yet another measure, sponsored by once traditional foes, to combine resources for the common good.

To meet the demands of its burgeoning market, Western Europe is calling for more and more technical know-how, by which to further increase production. We in ECA are continually expanding our TA program to meet that demand.

Without a doubt, the extension of technical assistance will become increasingly important on a wider front, as we attempt to solve the problems with which we are confronted. The necessity of maintaining a healthy, productive society, while at the same time producing and supporting the strength of arms by which to protect our freedoms, will place a tremendous burden on the energies and ingenuity of ourselves and our free fellowmen.

Difficult as the task which lies ahead admittedly is, it must be accomplished. Every technique which will refine and increase the product of free industry, anywhere in the world, must be brought into practice. This is the role of ECA's TA program.

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Some Business Yardsticks

By HARRY A. BULLIS
Chairman of the Board, General Mills, Inc.

Five major management areas where the shape of our future is being formed. Human Relations, Productivity, Capital Investment, Accounting and Statistics, Executive Development are the critical fields surveyed.

THERE ARE YARDSTICKS to measure everything from business to people, and there are a great many yardsticks on any one subject.

I have selected five yardsticks for business from several times that number that came to mind. I do not maintain that these five are all-inclusive or that they are final. But in my opinion they are *among* the most important with which we will have to work in the years ahead. And the manner in which they are manipulated may very well determine the fate of American business.

THE YARDSTICK OF HUMAN RELATIONS

My first yardstick is a measure of industry's success in developing the science and art of human relations. On this depends the people's support and approval of American business. Without this support, American business as we know it cannot continue to exist.

Not so many years ago, we assumed that the average employee was interested in only two things — wage rates and hours of work. But research shows that he is interested also in good working conditions and considerate treatment by foremen and supervisors. He craves personal recognition. He wants to feel that he is really a member of the company team.

The wise executive appreciates these basic needs. He will take his employees into his confidence concerning reasons for company policies, rules, and regulations. His supervisors may help employees solve their home and personal problems. He will see that suitable recognition is given for outstanding work, and that rewards are in keeping with the job performed.

The degree to which we are successful with this challenge of human relations will determine the degree to which business will receive basic support from all the people. It will also reflect directly on operating efficiency. When we turn our attention to such personnel problems as diligence and application to work, turn-over rate, accident rate, absenteeism, and time lost through strikes, we are actually looking at human relations in one form or another.

It will be necessary for business to carry its story to its employees, so that they will be proud to be members of the business team. But our crusade for understanding of the American system must not end there. We should take the case for American business to the people, through the individual companies. In the Sermon on the Mount we are reminded that "Neither do men light a candle and put it under a bushel, but on the candlestick; and it giveth light unto all that are in the house." And yet I am afraid that many businesses have been hiding their lights for a great many years simply through failure to tell the story of their contributions to social progress. Unfortunately good deeds do not speak for themselves. It is to the interest of business and of the people that we speak boldly and proudly, through our individual companies, of the achievements, goals, and aspirations of American industry.

THE YARDSTICK OF PRODUCTIVITY[1]

Next to the human element, it seems to me that the most important yardstick by which to measure the future of American business is that of increased productivity. High productivity is essential not only to provide needed goods, but to give needed employment.

One of the most important tasks before industry today is the maintenance of high productive employment. That means, mind you, that on top of our current working level we need approximately 1,000,000 new jobs a year. Right now our economy is providing jobs for nearly 60,000,000 workers, but even so there are over four million unemployed. Does this mean we are failing in our task? I don't think so. You see, in this country of changing tastes and consumer demand, of individual freedom and personal choice, a certain amount of unemployment is to be expected. This includes the part-time workers, the people who are changing jobs, and the shifting population. It is a normal symptom of our economic condition, but it must be observed closely so that it does not get out of hand. The only way to overcome it is to resort to regimentation and sealed work orders such as are in vogue in other parts of the world.

This increased responsibility for employment, pyramiding year-by-year with the growing American population, means that management has a lot of responsibility. Not only management, but government and labor as well. It is to the interests of all that every obstacle be identified and then removed from the path of business so that our economic leviathan can gain ever greater momentum.

But there is an equally vital reason for strengthening this yardstick of full productive employment. We need more and

Adapted from an address delivered at the University of Wisconsin, May, 1950.

[1] Employment figures since the outbreak of war in Korea have changed. The importance of increasing production is even greater than it was ten months ago.

more people. If our standard of living is to rise in this country, and we are determined that it shall, we require more production, more of the good things of life for all. That is a job for management, and with the cooperation once again of labor and government. It means more goods at lower costs, at prices people can afford to pay. In other words, labor must limit its demands in keeping with advances in productivity and the creation of real wealth. Government should trim the excess fat off its bureaucracy and pass the savings along in tax reductions that will encourage all business.

Before I pass over this topic, consider with me some of our past achievements on productivity. With seven per cent of the world's people, we produce 37 per cent of the world's goods. A good part of this we share with the world. Of steel we produce half of the world's total. In the case of capital goods, with only seven per cent of the earth's population, we produce 60 per cent of the world's output. Judged by these yardsticks, we have done well indeed. Then why worry about the future? Perhaps "worry" is the wrong word there. But it is extremely wise to take a long-range view of the future, and to *be concerned*. We need to be concerned, because in this world today we are witnessing a paradox. We are at once more alone than we have ever before been in our history, and yet we live closer than ever to other nations.

We are alone in philosophy of life and business and government. Yet geographically, thanks to the airplane, we are just a few hours from dozens of other nations.

It would be perfectly natural for us as a nation to look back on our past achievements, observe with satisfaction our present capabilities — and like the hare in the fable, yawn, stretch, and fall asleep by the roadside. But we must not forget the plodding tortoise, nor the outcome of that classic race.

THE YARDSTICK OF CAPITAL INVESTMENT

My third yardstick is in some respects the most important of all. In fact, when you look at these yardsticks individually, each appears to be the most important! This third yardstick measures the amount of capital per worker invested in American industry. On this depends our future standard of living.

Let me phrase it another way. The amount of money that industry has invested for each worker in tools and equipment will be the yardstick that will determine the production of goods, which in turn will create the jobs and the higher living standards of the future.

What about the level of capital investment per worker? We have more workers coming every year. In addition we desire a rising living standard for all our people. We cannot meet these problems successfully by drying up sources of capital investment through confiscatory taxation, double taxation on stock dividends, and punitive legislation directed against business.

If we take this course, it will mean that the only way we can absorb the increases in the labor force will be by watering down the existing capital investment by spreading it thinner, making it less per worker. Another way out is inflation. It is the route of unreal wealth — more dollars, but the value of the dollar constantly decreasing. The only way that we can travel if we are to increase the tools and equipment available for each worker is to increase the flow of capital investment into productive channels. We need capital to create new jobs and to strengthen existing jobs. We need more real capital invested per worker. In this way we will set the stage for higher levels of productivity.

This higher capital investment will make it possible for industry to develop its research and to expand its markets and sales forces. It will make possible new machines and methods of producing them. It will mean more real wealth, and more real goods, for everybody.

ACCOUNTING AND STATISTICS

There is a story that many years ago the two great financiers, J. Edward Simmons and Russell Sage, were discussing problems of their business. In the course of the general conversation, Simmons remarked:

"Money isn't everything — is it, Mr. Sage?"

"No," replied Sage thoughtfully. "The work of collecting it is highly important."

Yes, the job of collecting funds and accounting for them, of gathering facts and figures upon which to base operations and costing, is a highly important aspect of our business economy. It brings us to our fourth yardstick — the yardstick of accounting and statistics. The success of business in the second half of the twentieth century will be dependent to a large degree on how well we succeed in sharpening and perfecting the managerial tools of accounting and statistics.

Consider the challenge in the field of accounting alone. We look at the past, and find a great deal of accounting work with a view to measuring earnings and verifying assets and liabilities. Within this range, excellent work was done. But little consideration was given to the implications of earnings in relation to the business cycle, or to earnings as a test of the efficiency with which the enterprise has fulfilled its responsibilities to the general public.

We need to develop further certain accounting yardsticks that will help enterprise understand the moving equilibrium of the economy as a whole. This field of theoretical analysis demands that businessmen understand the implications for economic stability inherent in the individual account. The development of this type of accounting will make it possible to base executive decisions on the interests of the individual company *and* the economy, instead of those of the company alone. This equipment of proper economic facts will make it possible for management to become real "ambassadors" for business, even while it functions within our highly competitive profit and loss economy.

It would seem that we can well turn our attention toward the development of new measurement devices for certain aspects of financial accounting. We use extreme care in managing with safety the finances of our individual enterprises, and we explore thoroughly such devices as cash budgets, capital budgets and the financial statement. But how many businessmen know of accounting or financial measurements for exploring the true costs of public investment? Do we know, for example, whether the gains resulting from public assistance to housing balanced against the losses and costs of that assistance yield a net credit or a net debit? Are we aware, in this modern era of high plant investment and other substantial items of overhead cost, of the costs to enterprise and the nation of sharp downward lapses in the total

rate of our national output?

These new fields for the science of statistics and accounting will become increasingly important in the years ahead.

COOPERATION BETWEEN INDUSTRY AND EDUCATION

The fifth yardstick to measure the progress of business in the future is on the face of it a bit unusual. And yet, in many respects, it is the most intriguing of all. It takes into consideration the great dependence of our dynamic business institutions upon the institutions of learning in this country. This rule can be expressed as follows: The ability of American business to apply the proper management techniques to the great unsolved problems of the future will be measured by the yardstick of cooperation between business and our institutions of higher learning.

To help us develop the most skilled management in the history of America, we depend upon education to deal us some aces. We, in turn, can accomplish a lot by working more closely with education in discharging the obligation to society that we both share.

Consider the field of medicine. There we have a striking example of what can be accomplished when a profession and education work closely together. Our medical schools for many years have been pioneers in research and the dissemination of new findings. The medical profession stands high in public opinion and its teachings on health are a part of the education of every child.

Similar cooperation exists between the legal profession and our colleges of law. The same thing can be true of the relatively new colleges of business and commerce.

Educators and students might consider their role as friendly and able critics of business and business practices. Criticism should be straightforward and hard-hitting where necessary, having in mind the economic interests of the nation. Such constructive criticism will help business to better understand its own practices and objectives.

Similarly, schools of commerce can understand research aimed at developing techniques necessary for industrial progress. Curricula might give more consideration to the general subject of business responsibilities to the whole society, aside from the detailed specialties of accounting, financial management, market analysis, and so on. Badly needed, among businessmen of tomorrow, is a greater clarification and more understanding and positive confirmation of proper limits as well as the full meaning of managerial "social" responsibility and "social" leadership. It is this great over-all responsibility, especially to stimulate sound education and understanding, that may be the key to the future of business in this nation.

Business, for its part, should draw closer to education. There is no better place to begin than through the schools of commerce. I visualize more joint educational projects, more cooperative enterprise between business and education in this field. I can see both elements profiting, one from another, and in the end the advantages going to all the people. This is a largely virgin territory, but here, nevertheless, is a challenge vital to the future of the American enterprise system.

We have considered five yardsticks by which to measure business in the next five decades. They are not all-inclusive—they leave the door open for a great many more, equally important devices of measurement. The five we considered were human relations, increased productivity, capital investment per worker, statistics and accounting, and liaison with education. We have suggested ways that they might be applied to the benefit of all the people in measuring the goals, objectives, and attainments of business in the years to come.

The important thing to remember in considering these or any other yardsticks is that we here in America have a dual responsibility. Whether we like it or not, the mantle of world leadership has been thrust upon our shoulders. We are not responsible for our national economy alone. On us depends the fate of democracy everywhere in the world.

The very fact that we are self-critical, that we are striving constantly to find new and better ways, is evidence that we will rise to meet the issues of our times. This is a time for courage. The historian Arnold Toynbee has said we need the courage to act as our intelligence suggests. I am satisfied that in a test of courage America will not be found wanting. With courage we will apply whatever yardsticks are necessary to meet the tests and challenges of the future.

MANAGEMENT BOOKS *Recently Received*

Outworn Business Idols, by W. H. CONANT, 262 pages, Barron's Publishing Co., Inc., Boston 15, Mass., $4.00

Monopoly and Free Enterprise, by GEORGE W. STOCKING AND MYRON W. WATKINS, 596 pages, The Twentieth Century Fund, $4.00

Quality Control, Principles, Practice and Administration, by A. V. FEIGENBAUM, 443 pages, McGraw-Hill Book Co., $7.00

Executive Action, by Learned, Ulrich and Booz, 218 pages, Harvard Business School, Division of Research, Boston, $3.25

Effective Management Through Probability Controls, by R. K. MUELLER, 310 pages, Funk and Wagnalls Co., New York City, $5.00

Maintaining Competition, by CORWIN D. EDWARDS, 337 pages, McGraw-Hill Book Co., $4.00

Pressures on Wage Decisions, by GEORGE P. SHULTZ, 142 pages, John Wiley & Sons & MIT Press, $3.00

The Technique of Executive Control, by ERWIN HASKELL SCHELL, 296 pages, McGraw-Hill Book Co., $3.50

PERSONNEL Handbook, by JOHN F. MEE, The Ronald Press, 1167 pages, $10.00

New Times, New Methods & New Men, by VERA M. CLARKE, 147 pages, George Allen and Unwin Ltd., Ruskin House, Museum St., London, England, $1.50

Man the Maker, A history of technology and engineering, by R. J. FORBES, 355 pages, Henry Schuman, New York, $4.00

The "Pop's Committee", an informal advisory group of past presidents of Local 110, TWUA-CIO, who cooperate with the shop committee and management whenever requested.

The Importance of Being Important Together

By CLARENCE A. WIMPFHEIMER

President, American Velvet Company

Profit sharing is more than a written agreement in this organization. Eleven years of inspired cooperation shows steady progress for both labor and management.

CONSCIOUSNESS OF one's own importance to the total production picture seems to me a key factor of labor-management success in any plant today. Every worker, labor and management alike, can do better when he realizes the importance of himself to others. After all, American teamwork is a force never equalled during the entire history of technological competition. Teamwork on the job, of course, implies respect for the other man's importance just as much as a realization of one's own. The sense of belonging which comes from mutual recognition is to me among man's greatest satisfactions. We think we have it in the American Velvet Company* at Stonington, Connecticut. We pull together; we all feel important.

In 1938 we had serious labor-management troubles. The plant was practically closed for sixteen long months, well into 1939. The stockholders wanted me to sell out. We very nearly decided to move South. But I liked Stonington and wanted to stay here just like all the employees who have their own homes in this neighborhood. Velvet was their business as well as mine. The men and women who worked in the plant were my friends. An awareness of these factors made me act—as only a man can when he belongs and feels loyal to something much bigger than himself.

**American Velvet Co. is owned and operated by A. Wimpfheimer & Bro., Inc., est. 1845, of which Mr. Wimpfheimer has been President since 1935.*

BASIC HUMAN PROBLEM

Like most management problems, the solution was to be found only within the domain of human relationships. The physical assets of the plant were above average and finances were not in short supply. The people who worked there, the real wealth, were the real problem. We could not seem to get together even though we knew each other pretty well. Many of us had played football together; others had taught me the different operations, such as winding, warping, dyeing, finishing, weaving, etc., during the days of my apprenticeship in the plant. I knew the community of Stonington well, but somehow in 1938 we had reached a terrible impasse on company-union relations.

Sincere efforts to keep the plant in Stonington must have convinced a few of the employees that the purpose of management was not entirely selfish and that every worker was welcome to share his own views with us or frankly criticize and improve upon those held by the company. We began to understand each other where common objectives were realized. Mutual recognition and confidence in each other's sincerity of purpose finally turned the tide.

1939 marked the beginning of a new era for all of us. Local 110, TWUA-CIO, and the company worked out satisfactory wage and hour agreements plus fringe benefits, and four looms instead of two were operated by each weaver. Though elements of the national Textile Workers union leadership had seen the inevitability of this trend, local membership in the union took longer to accept it—and so did they take longer to accept profit sharing which soon followed.

PARTNERS IN PROGRESS

Profit sharing, when first proposed by management, was rejected by the union. Not until late in 1940 was mutual confidence in each other well enough established to embark on a profit sharing plan. When accepted we made the payment of profit shares to all employees retroactive to cover the fiscal year ended November 30, 1940. That's how much confidence management had in the new *team*. And in return the company obtained a three-year contract from the union instead of the usual one year contract, in order to give us all a fair period of time to test the plan and to see how things would work out under the new system. By that time labor was beginning really to understand that management had to have time in order to determine our profit-making ability. The first distribution of profits in 1940 amounted to 11% of annual wages for every employee, a fair start.

Since then the payments have fluctuated upward to 39.414% of wages paid for the fiscal year ended November 30, 1947. This last year, the eleventh distribution, amounted to 33.528% or an increase on top of wages and benefits of slightly more than one-third for every employee.

Labor and management alike have profited. We have tapped human potentials which we had never thought existed. Increased production efficiency is not the end but merely a means to achieve the kind of working democracy we value in our daily relationships. The identity of both labor and management with the success of the business as a whole is constantly growing, and so is the business growing! With "partners" such as I have we must constantly progress. And why not? Every worker in our plant knows that we can beat any competition the industry can offer. We believe that we have the best labor-management relationship in the country. That kind of conviction means high morale, alert and responsible teamwork on the job every day.

How did we get this way? The historical development, briefly referred to, alone does not explain the human factor — the unknown variable at work in every situation. When Local 110's shop committee comes into the head office for one of the innumerable meetings with management, held as often as either labor or management desires, we never know just what the outcome will be. What we do know is, however, that nobody pulls any punches. We are at times painfully frank with each other. Each man and woman is respected for honesty of expression, above all. Never is a man or woman penalized for honest opinion. That's how we encourage initiative and mutual understanding—or, rather, that's *one* way.

"POP'S" COMMITTEE

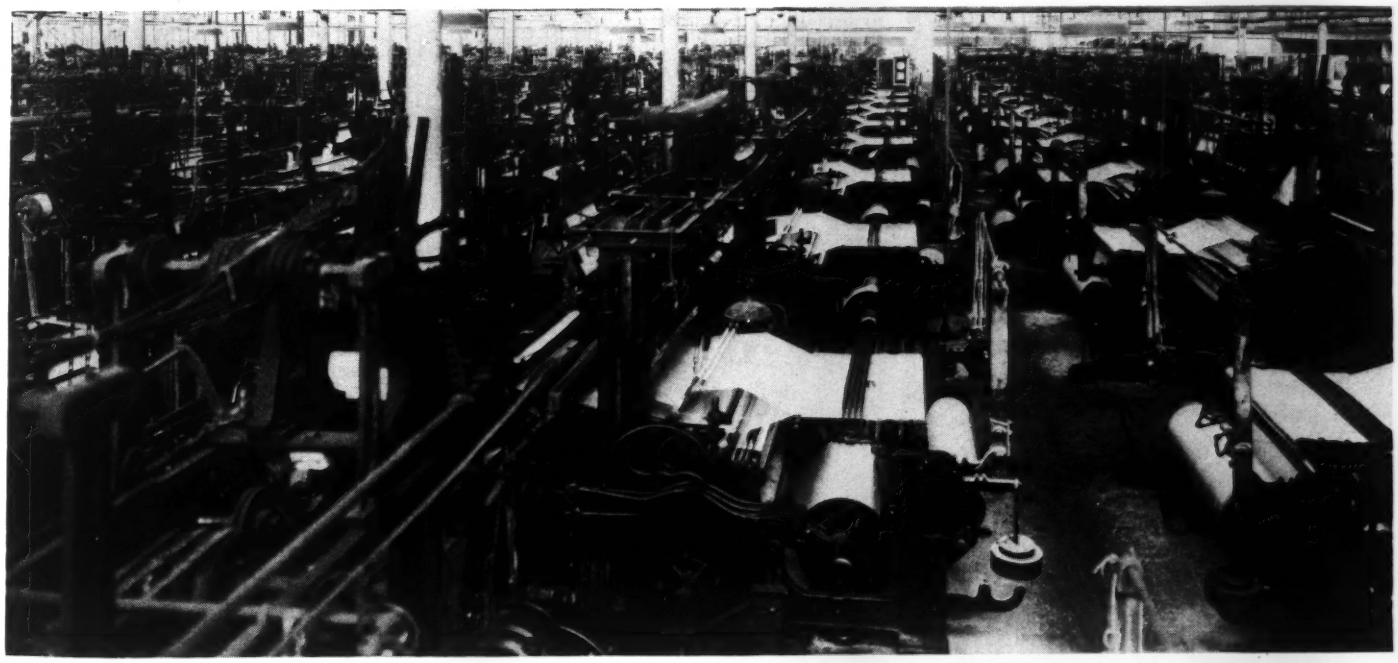
Then we have what is known as the "Pop's" committee of former union presidents who act in an advisory capacity on short notice. We have no formal lines of management-employee communications set up. We have no printed "house organ", though we have thought of it several times more as a way to inform the families than the workers. We have no orientation lectures for new employees. Perhaps we are remiss about such things. But we are proud to say that our workers have participated in national conferences, radio programs and even on world-wide Voice of America programs. Anything of community significance gets into the local papers. As for the rest, we know each other on the job every day.

This last December the company distributed profit sharing cash bonus checks to 368 employees throughout the plant. Some executives will say that this is a comparatively small number to know personally and therefore a larger employee force makes it impossible to create the kind of human relations we have here. To us that is simply a lazy excuse. We grant that any profit sharing plan must be tailor-made to fit the requirements peculiar to different situations, of course. But profit sharing will work wherever and whenever both labor and management sincerely want to make it work, always remembering that the *human* factor is as important as the air we breathe.

"When there are no profits, what then?" is a common question heard at about every public discussion of profit sharing. Anyone knows that labor has always suffered from losses in the form of unemployment or wage cuts. Losses are nothing new to labor, and labor is therefore more anxious than anyone else to make the business pay off profits. The worker also knows that no business prospers for long without profits. Can there be any better insurance against loss than the workers themselves who are *determined* to do their best?

RISKS AND INSURANCE

If asked to blame labor or management, I would suggest that the fault usually lies with management when an intelligible profit sharing plan fails. This can mean, I venture to say, that management has sometimes failed to provide leadership at the start in cooperation with labor's leadership. If management admits no monopoly on free enterprise and the profit incentives which have made our American system work so well, it would seem but logical that labor should very specifically share in the rewards of that system. The suc-



Weaving Room, American Velvet Co., Stonington, Conn., now being expanded by 23,000 sq. ft. addition for high priority armed services prime contract production.

cess of our world leadership today may well depend upon the extent to which management recognizes labor as a full partner. After all, our system of free enterprise is American labor's system just as much as it is American management's!

If it takes profits to make me work harder and if I am entitled to those profits as the boss or stockholder or owner of a plant, why isn't the worker entitled to a share in those profits which he has helped me to earn by working harder too?

When a worker *knows* in advance (see our contract with Local 110, TWUA-CIO) that he is part and parcel of the success of the business as a whole and that he has a personal stake in that success, he increases his productive efficiency and sharpens his own wits on the job—or else his fellow workers on the job, *not* management, find a way to correct the situation. Anyhow, that has been my experience during the past eleven consecutive years of successful operation with profit sharing here at Stonington. Incidentally, turnover here has been nil during those years and we have all made more money—both labor and management.

PROFITS SHARED THOUGH WAGES FROZEN

Profit sharing certainly is in line with the highest aspirations of our American enterprise system in that every worker becomes a very practical capitalist with a vested interest in the rewards of production. He shares what he creates on a basis which sparks him to increase his own efficiency in cooperation with others on the job. In a situation like ours at Stonington his share of the profits goes up or down in proportion to the overall success of the business, i.e. his increased income from extra effort is tied to company profits. And, incidentally, in times when wages are frozen, the worker still gets a share of the profits earned. He knows his share is tied to production, and this makes profit sharing still more important as a stimulus and an aid to wartime production schedules.

SHARING — BOTH PROFITS AND SATISFACTIONS

It is written into our agreement with the union (available to you on request) that eligible employees shall receive 30% of the company's annual net profits before taxes with each employee receiving the same proportion of his annual wages as the next. There is nothing of the paternal "hand-out" about this. This extra income is earned in a self-respecting manner. The cash is little more than a practical form of recognition for extra services rendered. The host of personal satisfactions—plant, family, community, state, and national—known to men who work here is fitting evidence that the cash value of profit sharing is superseded by those values which mean more than dollars to men practicing American democratic living.

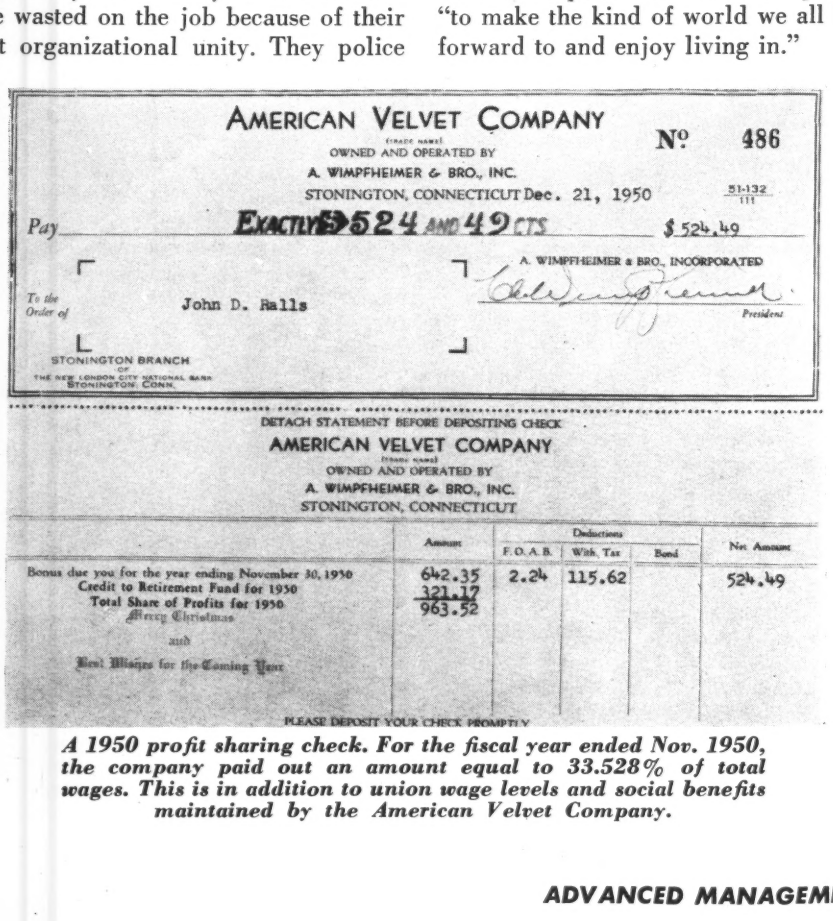
Some management experts may consider profit sharing simply a "technique" of management. When used as such it has often been prostituted to the service of those who would chisel down wages, use profit sharing as a substitute for union wage levels and social benefits or to fight unions. Profit sharing won't work if misused for such purposes.

Personally, I would not want anything but a union shop in my plant! My experience to date gives me a very definite preference for the union shop. The self-imposed discipline of union members in our plant has minimized supervisory costs. They have cut down time wasted on the job because of their tight organizational unity. They police each other! We have had no need to resort to outside arbitration since profit sharing, no prolonged bargaining sessions and labor turnover has been nil.

THE ESSENCE OF TEAMWORK

Many stories could be told, humorous and otherwise, about the daily incidents which make up the spirit of what we call teamwork on the job here. Instances of voluntary helpfulness when one fast worker will switch over to a slower worker's machine to help him catch up . . . the time when the union offered to help me financially when our high inventory was worrying *them* . . . the day we decided to go on four days a week at the *initial suggestion* of the union shop committee (which we did for a few weeks) until sales took care of the overstocked inventory situation. . . . These are the people who make life worth living for me.

We believe that right here in Stonington, Connecticut, we have the kind of labor-management partnership that it takes to maintain national security with a maximum of individual freedom during peace or war. The achievements of Americans helping in this way to make democracy work are important not only to all of us on the job here every day, but also to quote a weaver in the plant—"to make the kind of world we all look forward to and enjoy living in."



AMERICAN VELVET COMPANY
(trade name)
OWNED AND OPERATED BY
A. WIMPFHEIMER & BRO., INC.
STONINGTON, CONNECTICUT Dec. 21, 1950 No. 486
51-132
111

Pay EXACTLY $524 AND 49 CTS $524.49

To the Order of John D. Ralls

A. WIMPFHEIMER & BRO., INCORPORATED
President

STONINGTON BRANCH
OF
THE NEW LONDON CITY NATIONAL BANK
STONINGTON, CONN.

DETACH STATEMENT BEFORE DEPOSITING CHECK

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(trade name)
OWNED AND OPERATED BY
A. WIMPFHEIMER & BRO., INC.
STONINGTON, CONNECTICUT

	Amount	Deductions F.O.A.B.	Deductions With. Tax	Deductions Bond	Net Amount
Bonus due you for the year ending November 30, 1950	642.35	2.24	115.62		524.49
Credit to Retirement Fund for 1950	321.17				
Total Share of Profits for 1950	963.52				

Merry Christmas
and
Best Wishes for the Coming Year

PLEASE DEPOSIT YOUR CHECK PROMPTLY

A 1950 profit sharing check. For the fiscal year ended Nov. 1950, the company paid out an amount equal to 33.528% of total wages. This is in addition to union wage levels and social benefits maintained by the American Velvet Company.

"Co-Determination" Mitbestimmungsrecht

By SAMUEL L. H. BURK

Director of Industrial Relations
Pittsburgh Plate Glass Company

Appraising the underlying causes of past and future demands by labor for power in influencing management decisions outside the usual bargaining sphere.

THIS ARTICLE and its title was suggested by a brief news item by Jack Raymond which appeared in the *New York Times* on January 5, 1951. The following quotation is from that news item:

> "The union is seeking acceptance of a program assuring its 'Mitbestimmungsrecht,' literally but inadequately translated as co-determination. Simplified, this means the union wants the right to share not only in decisions of management concerning wages and welfare but production and sales techniques as well."

The author of this news item is quite correct in stating that "co-determination" is an inadequate translation of "Mitbestimmungsrecht." This word is an example of the many beautiful German compound words which cannot be translated into another language by too literal a translation of their component parts.

Examination of the component parts of our title word might start at the central syllable "stimm." Literally translated this means "voting." The verb "stimmen" however means to determine, to accord, to agree. The noun "stimmung" means tune, disposition, harmony, humor. The addition of the reinforcing prefix "be" changes the noun to mean determination or regulation. The further addition of the prefix "mit" implies determination with or regulation with.

So far the translation of the word bit-by-bit from the viewpoint of advanced management is rather innocuous. We get the sense of labor participation in the councils of management, not so much from the point of view of exercising any right or privilege with respect to such participation but perhaps with the idea of management seeking the cooperation of labor and using labor's advice and counsels on matters with which workers may be expected to have sound opinions.

When we add the word "recht" the implications become more sinister. In many ways the German word "recht" is the same as the English word "right." In its current context it means an inherent human right or a legal right as against a privilege that might be granted. Taken all together, we would conclude that the German steelworkers are threatening to strike because some assumed right to participate in or even over-ride the decisions of management has not been granted by management or secured by legislation.

PRIVILEGE OR RIGHT?

Similar but scattered attempts on the part of labor unions in this country are not novel. We believe that such attempts have been resisted by even the most "progressive" managements and rejected by most labor unions. On the other hand, we have outstanding examples in industry of many managements seeking the advice and counsel of employees at all levels including qualified production and maintenance workers. In many areas this participation has been granted by management as a privilege to appropriate members of its production team. In return for having granted this privilege, management has expected to secure more cogent cooperation from its lower echelons as well as those benefits that might be obtained from seeking the opinions of many qualified individuals before making an important decision or launching upon a significant plan of action.

So far as we know, however, most managements in this country that have made such moves have retained the right to make the final decision without possibility of veto by employees and certainly without the possibility of refusal to follow such decisions on the part of any employees or their elected or appointed collective bargaining representatives.

It is at this point that the full danger of the "Mitbestimmungsrecht" concept becomes apparent. A procedure of this type strikes at the heart of sound principles of organization. This very point has been frequently emphasized by labor union leaders. To quote one example in point, Philip Murray has said,

> "To relieve the boss or the management of proper responsibility for making a success of the enterprise is about the last thing any group of employees—organized or unorganized—would consider workable or even desirable. The unions are on record in numerous instances as recognizing that in the last analysis management has to manage, if any concern is to be a success financially or in any other way. . . . In other words, someone has to 'run the business.' . . . As between unions and management, there is never

any doubt as to where this responsibility should and actually does lie."

The primary function of management is coordination, and many authors of significant contributions to the literature on this subject stress the point that the word "coordination" expresses all of the principles of organization in one word. Coordination is the ultimate objective upon which all organization is founded from the point of view of its internal relationships.

Professor Harold Thuesen, author of the recently published book, "*Engineering Economy*," has said: "Organizations are means of overcoming the limitations of people through cooperative effort." He could have added, however, that the cooperative effort must be expended toward the achievement of a common objective or toward what many authors have called the general interest. Since organizations are used to overcome the limitations of individuals, there is an implication that different individuals have different limitations. Therefore, it would appear that with a large number of individuals, there would be wide variation of action even in cooperative effort unless these actions were appropriately and adequately coordinated. Regardless of the nature of the common objective or the motive behind the objective, someone within an organization must be entrusted with final and ultimate authority to decide. There may be some question as to whether that someone be drawn from the ranks of ownership or from the ranks of the workers. Regardless of origin, however, just as soon as a man is entrusted with administrative authority and responsibility, he becomes management. In the case of the chief executive officer, that responsibility is to make his decisions in the light of the general interest of the organization as a whole and not of the interests of an individual employee or of small groups within or outside of the organization.

This is not to say that the effective administrator will approach the solution of his problems in any but the most humble or modest way. He will, wherever possible and practical in the light of the general interest, draw upon the wealth of specialized knowledge and experience available in the individuals for whose efforts he is responsible. In the end, however, he must rely on his own judgment. If in the majority of cases his judgment is correct, and to the extent that such judgments are correct, he will be successful in discharging his responsibility and justified in exercising the authority assigned to him.

FINAL AUTHORITY

While we can not be too sure about what is going on inside of communist Russia, one of our national magazines has recently given us a little insight into industrial methods in Marxist Yugoslavia. According to that magazine, the typical plant manager or superintendent is permitted to make decisions, subject to the veto of his workers' council and also subject to appeal to higher governmental authority. While this may make for greater proletarian illusions of importance, it certainly does not make for effective operation in industry. It is undoubtedly one of many reasons why Yugoslav industry has failed to measure up to its production requirements.

L. Urwick, author of the "*Elements of Administration*" (Pitman and Sons, Limited) has made the point very well:

> "Since to secure the general interest is the basis of Command, the reason for its existence as an aspect of administration, it finds its underlying principle in the one word quoted by Fayol as his eighth principle — namely, 'centralisation.' To say this is not to imply that the whole sum of the commanding in any undertaking should be gathered together in the centre. On the contrary, this would do violence to the principle of delegation already emphasized. In any large undertaking many subordinate officers must and should exercise functions of command. But just as 'the supreme co-ordinating authority must rest somewhere and in some form in every organisation,' and Authority therefore is the basic principle of organisation and enters into process through the Scalar chain which finds its principle in Leadership, so when Planning enters into process through Command, it finds a corresponding principle in centralisation."

When the chief executive officer of an industrial organization delegates, he assumes the calculated risk of decisions being made on the basis of sectional or even individual interest. The chief executive's responsibility is, as has been said, the general interest. Therefore, it is essential that somewhere within (as against outside of) the organization and in the organization's executive structure, someone must have ultimate and final authority in order not only to overcome but appropriately to balance individual or sectional interests toward achievement of the common goals.

Since the objectives of a labor union may, in many of their aspects, be opposed to or in direct conflict with the general interest of a single industrial undertaking, the voice of the labor union can not be given such weight in the councils of management that it can interfere either with the ultimate authority of command or with the discharge of the managerial responsibility.

The statement in the immediately preceding paragraph in no way reflects or depreciates the generally accepted principles of the right of workers to bargain, through their duly appointed representatives, for wages, hours, or conditions under which their services are to be employed. Neither does this statement detract from the apparent desirability of communicating to workers, directly or through their representatives, management decisions that affect the general interest. It would seem to have been adequately demonstrated that qualified participation in determination of the elements entering into management's decisions and a knowledge of decisions thus made act as an excellent incentive to the satisfaction of human needs in employment in an industrial enterprise. It has been demonstrated just as conclusively, however, that men seek informed, decisive leadership. The executive who dilutes his leadership by day-to-day or hour-to-hour vacillation between or among the advices of his individual subordinates fails in providing the type of leadership that men want. Even if this were not so, no organization of any kind can achieve its objectives nor serve the general interest of its members unless those members are willing or conditioned to recognize the authority of command.

RESPONSIBILITY AND AUTHORITY

In a free economy, individual organization members are free to register their disapproval of commands by seeking employment elsewhere, or, when such commands impinge upon wages, hours or working conditions, to employ group

economic force. Accumulations of ill-advised command decisions result in decreasing organizational effectiveness. Sooner or later the poor commander is replaced. But no commander could ever have an adequate opportunity to demonstrate his effectiveness if a popular vote had to be taken on every problem.

Imagine the field officer in any army who had to poll every private on every tactical or logistic problem! The play, "*Command Decision,*" pointed many morals, one of which was the difficulty of effective strategic bombing when the "representative" of members of an organization, from outside that organization, insisted on a voice in the solution of every problem.

Appraisal of the symptom and recognition of its disastrous effects are not sufficient. We must attack the disease which causes the symptom. Surely "Mitbestimmungsrecht" was not conceived from blue sky and empty air. It wasn't implanted in the minds of large groups of workers in a manner similar to Athena springing full blown from the brow of Zeus. It is an obvious conclusion that some fundamental dissatisfaction must exist; some human need is not being filled. Unfortunately we can not observe or diagnose this ailment as it exists in Germany. We can, however, make some observations of apparently similar tendencies in industry in this country.

It is always less difficult to seek to lay the blame on someone else and it is quite possible that part or all of the blame for unwillingness of the commanded to submit to commands may lie outside of the industrial organization. It will not, however, be our purpose to investigate these possibilities. This article is written for management in the hope that management will be willing to examine its own house before seeking to lay the blame at the doorstep of a neighbor.

Although the fundamental function of management is coordination, it is recognized that in the process of coordination, management must in some way secure the willingness of all of its subordinates to work for the general interest. Mooney and Reiley in their book, "*Onward Industry,*" state that:

> **"Leadership becomes the form which authority assumes when it enters into process."**

Leadership, motivating people to follow, is not a mechanical result of organization. It is a matter of mind, not of the physical or corporate body. Fundamentally it stems from precept and example. A committee, whether it be a management committee, a labor committee or a combination of both can not arouse individual enthusiasms nor inspire individuals to follow. The individual executive can generate willingness to cooperate and, by his own actions, provide motivating examples to his subordinates.

The chief job, therefore, of each individual member of management in exercising his coordinative authority and responsibility is to do so with primary attention to the probable reactions to such decisions among the people assigned to his jurisdiction.

All of the factors which enter into the management of people in industry have been summed up under the heading Personnel Administration. Management literature is replete with references to the various phases of personnel administration. It is not the purpose of this article to examine in detail the manner in which personnel administration attempts to satisfy those reasonable desires of human beings with respect to their industrial occupations. Its total objective is conservation of human resources in the same way that the objective of other activities of management is conservation of material resources. Sound personnel administration emphasizes the essentiality of human beings in industry and the necessity for the maintenance of the dignity and integrity of the individual.

CAUSES OF DEMANDS

In cases in this country or abroad in which individual worker members of an organization have sought greater power with respect to management decisions on matters other than wages, hours and working conditions, without stimulation from outside sources, it can be successfully demonstrated that in one or more ways management has not been successful in meeting the reasonable expectations and desires of employees with respect to what they should get out of their employment as members of a productive team. In each case, the faults may be few or many, but underlying causes might well be discovered by objective investigation in many areas. The investigation might cover, for example: an analysis of existing organization structure; an inventory of executive aptitudes and capacities; a search for possible blocks in lines of communication both upward and downward in the organization pyramid; an appraisal of methods of salary and wage administration; and consideration of the degree or extent of indoctrination of employees in the objectives, methods, procedures, products and policies of the enterprise. The above list is far from inclusive and is intended merely as an indication of causes for many underlying employee dissatisfactions with its leadership. Removal of all such causes makes for optimum personnel administration.

It is the belief of practical men in industry as well as of their academic colleagues in the universities that conservation of human resources from the point of view of dignity and integrity of individual can and will form the chief bulwark against disruptive concepts like "*Mitbestimmungsrecht.*" Does advanced management choose the route of co-determination or the route of inspired leadership which leads to maximum coordination?

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Productivity

By SIR GEOFFREY HEYWORTH

Chairman, Lever Brothers & Unilever Limited

The world's No. 1 problem receives special attention from the chief executive of an organization operating on a world-wide scale.

THE PROBLEM OF PRODUCTIVITY faces every industry in some form or other, but to a great extent special considerations apply to each industry. The underlying principles have been the subject of discussion and study for many years past. Little that is new in theory can be profitably added to-day. The main contribution that can now be made is rather in the direction of the confirmation of those principles in the light of the practical working experience of recent years.

I will therefore confine myself to what we have done in Unilever and the conclusions we have reached from the point of view of those industries with which we are concerned. I must leave it to those who are familiar with other industries to decide if and how far our experience can assist them in dealing with the problem of productivity in their particular sphere.

IMPORTANT BASIC PROBLEM

I have chosen the subject firstly because of its importance as a basic problem upon the solution of which an industry's ability to survive under modern conditions depends; and secondly because the work we have done since the war has reached a stage when we can begin to look back, observe progress and draw conclusions as to the principles to be applied and the best methods to pursue.

In what follows I use the term "productivity" in the sense of physical volume, not value of product, and I relate it to the number of man-hours worked. In relating it to man-hours I do not suggest that low productivity is necessarily the fault of the worker, the result of insufficient effort or skill; nor on the other hand that an increase in productivity is necessarily due to the worker, to increased effort or skill on his part. It is necessary for purposes of comparison to relate the number of units of output to some common factor, and man-hours is the simplest. It also has the advantage of directing attention to the importance and possibility of economizing labour at a time when some industries are obstructed in their efforts to satisfy their markets by difficulty in securing labour.

It is perhaps necessary at this point to make clear that improving productivity per man-hour is not the only way of reducing cost. It may not offer as great an opportunity as other approaches. In the industries in which we are mainly engaged — seed-crushing, margarine manufacture and soap-making — the labour element is small in relation to the final cost, a much larger element of cost being the raw materials. It is therefore only natural that the production manager's first thoughts go to ensuring the most economical use of his raw materials.

This aspect of production which we call "technical efficiency" has been and continues to be the subject of unremitting study, both in the factories and in the research departments. Very considerable progress has been achieved and to that extent the scope for further improvement may be diminished, but we expect nevertheless to see further worth while economies in this field in the course of time.

CHANGE IN EMPLOYMENT SITUATION

Perhaps the main incentive for increased emphasis on the study of improvement in productivity comes from the change in the employment situation. Between the wars when there was serious unemployment in almost all industrialized countries there was a natural reluctance to make changes, the first effect of which was to reduce the numbers employed. Now conditions are very different; these often make it difficult to maintain a working force adequate to cope with an increasing demand for our products. Even if the labour force is adequate, the prospect of getting more output without increasing numbers has a strong appeal to production managers.

From the worker's point of view the climate is also favourable, the emphasis having shifted from ensuring a job to a desire for a higher standard of living.

All factories throughout the organization are expected to accept that expert study of labour productivity is necessary as an aid to efficiency which can be used for the benefit of the business. It is just as much the concern of those that are thought to be efficient as those that may be thought to be less so. Moreover, it is recognized that the benefits that accrue through it will redound to the credit of the management, and the fact that they do accrue is not regarded as a criticism of past performance. The full benefits will not be forthcoming without the help of experts, and therefore a pool of specially trained personnel has been created centrally.

STUDY ENGINEERS

We have at the present time fourteen production study engineers based on

London and Rotterdam. This personnel is available to work out programmes for production studies with managements, and agree plans with them for subsequent implementation by them. These experts have no stereotyped scheme to offer. There are certain principles that have to be observed if the plan is to be effective, but each plan is determined by the physical and human conditions of the individual factory units.

These study engineers are also concerned with the training within the individual factories of experts whose duty it is to operate the plans after they have been accepted. It takes from two to three years to train a study engineer, i.e. a man who initiates productivity studies, and about twelve months to train one of the plant men who can take responsibility for the running of a plan in operation. In the last four years thirty-nine plant experts have been trained.

When the decision has been taken to initiate a study in a factory, the first step is to explain its objects to all concerned, management and workers, and to secure their effective co-operation. It is explained that the object is to improve methods so as to make working conditions easier, at the same time bringing about a reduction of cost; that in practice no worker loses his employment by reason of it, any redundancies being taken care of by reduction of intake of new workers; that the object is to achieve more effective use of the same amount of effort that is presently being expended rather than to demand a greater expenditure of effort. Further: that the correct assessment of a normal day's work will provide the basis for considering the introduction of an incentive scheme of wage payment. Exactly what the study will involve is made clear to everybody, and that it can only be effective if all carry on in their normal way while it is being made. The results that can be expected are largely determined by the thoroughness with which the objectives are understood by the management and workers.

STUDIES AND PLANS

Production studies which lead to the final plan can best be discussed in the following sequence:

(i) layout and equipment
(ii) organization of work
(iii) human factors

The studies on which these observations are based in the main relate to the United Kingdom and the Continent and the period since 1945. Here the effort has been on a co-ordinated and organized basis, gradually expanding as more trained personnel became available and as we grew more sure of the lines on which we were working. Before the war attention to productivity was more spasmodic — at any rate in our European factories. In the United States, work in this field has received more continuous attention. As soon as more trained personnel are available it is the intention to extend the studies to all our overseas operations.

(I) LAYOUT AND EQUIPMENT. — The difficulty with layout is that in an existing factory it is not easy to make a fresh start. In our organization, for instance, the design of some factories is somewhat unsatisfactory, usually because during the earliest phases of their history they developed in a rather haphazard manner and extensions therefore had to be made

TABLE SHOWING COMBINED RESULTS OF IMPROVED METHODS AND INCENTIVES

Factory or Department	*Productivity before application of Production Study*	*Productivity after application of Production Study and incentives*	*Percentage increase in productivity*
	*Expressed in standard minutes**		
COUNTRY I			
FACTORY A			
Toilet soap	30	75	150
Mechanical packing	61	67	10
Vim	36	65	80
Cosmetics	31	76	145
FACTORY B			
Cattle cake factory	47	70	48
Bag repair and storage	47	80	70
Cattle food	34	64	88
FACTORY C			
Soap production	38	75	100
COUNTRY II			
FACTORY D			
Vim	45	75	66
Powder (mechanical packing)	54	74	37
FACTORY E			
Margarine production	48	62	29
		no incentive applied	
COUNTRY III			
FACTORY F			
Packing	39	60	54
Dispatch	35	70	100
FACTORY G	50	78	56
FACTORY H	42	78	86
COUNTRY IV			
FACTORY I			
Soap production	52	72	38
COUNTRY V			
FACTORY J	48	80	67
COUNTRY VI			
FACTORY K	40	68	70

**A standard minute represents the amount of work which can reasonably be expected in one minute from a normal worker after introduction of improved methods of operation.*

which had not been foreseen and for which a suitable space had not been provided in the initial plan. Ultimately this lack of logic works out in high cost—particularly of internal transport. It is our experience that even in a poorly designed factory methodical planning can quite often greatly improve the flow of production, and thus increase efficiency. Sometimes a certain amount of building is necessary for this purpose.

Even more important than design and layout is the quality of the equipment. In our organization we have plants of various degrees of modernity, and this gives us an opportunity to see how much difference equipment can make.

THE MEASURE OF EFFICIENCY

The number of man-hours required for a certain process with modern or with obsolete machinery is not the only measure of efficiency. The higher cost of equipment too has to be considered. In most cases, however, this increase in cost is more than compensated by the savings in handling-cost, especially when cost of power, space, etc., is taken into consideration. A few comparisons show the importance of first-class machinery for the efficiency of labour. In one of our factories the manufacturing and packing of soap-powder requires 8 man-hours per ton. In another factory where production is in comparable units, but the mechanization is higher, the corresponding figure is only 4.2 man-hours per ton. In a factory where we pack by hand, manufacturing and packing of household soap tablets require 23.5 man-hours per ton, whereas in another factory where a modern packing machine is in operation the labour cost of this product has been reduced to 8.1 man-hours per ton.

Similar differences exist in our margarine factories. The average standard for factories, operating the old batch process, is about 9 man-hours per ton of packed margarine. By applying a continuous method the standard can be brought down to 6½ man-hours per ton, and by further mechanization of packing even to 5 man-hours per ton.

(II) ORGANIZATION OF WORK.—A logical layout and modern equipment do not by themselves guarantee the highest degree of efficiency. It is also necessary to concentrate on the organization of work down to the movements of the individual worker. We have been soap makers and margarine makers for a few generations, but it is remarkable that men who have grown up in a particular job find it difficult to detach themselves sufficiently to obtain a fresh outlook. Quite often a trained observer can suggest more effective means of using time and energy, not only because of his specialized technique of observation and analysis, but also on the principle of a new light on an old subject.

STANDARDIZATION

One of the main reasons for loss of time and energy is the lack of standardization of products. Changing over from one size or weight to another causes considerable losses. Conveyor-belts have to be stopped and machines reset every time, and during re-setting not only the productivity of the machine but also that of the operator is nil. Here we have a problem that calls for a great nicety of judgment—the striking of a balance between the consumer's demand for variety and operational efficiency. The consumer is interested in operational efficiency because it is one of the determinants of the selling price. We therefore plan to produce as many products as possible by continuous runs, and where this is not possible to limit production to runs of a certain minimum length. Moreover, in countries where we have more than one factory we are able to increase the degree of standardization by concentrating particular types of runs in certain factories.

The interruption caused by re-setting is only one form of irregularity of flow, which is one of the greatest sources of waste. In fact, at the very outset of a study we often discover that a lot of time is spent waiting for the next job. This was most obvious when raw materials were in short supply and arrived at the factory in irregular quantities. One example will illustrate the point. During the year 1948, in one factory, labour cost per 100 units of production of one item varied from 4/- to 13/-, mainly in accordance with the volume of production in different weeks. It is not always possible to avoid hold-ups in the delivery of raw materials. There is, however, no reason why workers engaged for instance in cleaning drums or repairing bags should waste time in waiting for the next lot. Elimination of waiting time has often helped to increase performance by as much as 30 per cent. Apart from external influences it is in most cases possible to secure a continuous flow by simple means, once the matter is given systematic attention.

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BOTTLENECKS

Surprising though it may seem, it is often more difficult to discover where exactly bottlenecks in the plant lie. Sometimes they are almost unnoticeable, and yet they have a decisive influence on output. This was evident during the war when in one of the occupied countries the manager of a soap factory slightly reduced the speed of the packing machines. His aim was to practise a mild form of sabotage, but he was able to find an excuse in the inferior quality of war-time packing material. This appeared to be a very small matter, but in fact it reduced the production of the whole factory by 10 per cent. Now this was a bottleneck of which the manager was very well aware, but there are many factories in which bottlenecks are only discovered by study. This must be done by close co-operation of the expert with the factory management.

It has been well known that workers, even when they have done a certain job for a number of years, make unnecessary movements and thereby waste energy. By motion study it is possible to show how the same job can be done with less effort if things are arranged in a slightly different way. If and when, after such rearrangements, the worker's performance is increased, it is not because he is being driven, but because he has been helped to use his energy to better effect. Work study in a department where labour is chiefly manual has much greater effect than in a department which has already been mechanized; because the machine in itself compels a certain amount of purposely organized effort. Still, even in mechanized departments savings are possible. This was demonstrated by a study of mechanical packing in one of our soap factories, which resulted in an increase in productivity of 20 per cent.

THE NEW "NORMAL"

On the whole, our experience is that even without incentives, by just studying

the methods of work and improving them, we have been able to establish a level of productivity which we will call the new "normal", 30% above the previously existing level. To reach this level no extra effort by the worker was called for. It was solely a matter of eliminating waste and improving conditions. It should be emphasized that the "normal" is determined by the results of the studies and is then explained and accepted by the management and the workers concerned. This brings me to the last and most important point in the sequence—the human factor.

(III) HUMAN FACTORS.—When referring to the rather low standards of individual performance which have been typical of the post-war situation in most countries, some critics have assumed that this is all due to lack of effort on the part of the workers. Of course, war-time circumstances have to a certain extent affected the workers' effort. In occupied countries most people had adopted a go-slow attitude for patriotic reasons. It is not surprising that after a period of passive resistance, frequently combined with undernourishment, the return to pre-war performance took some time. In other countries active warfare had demanded the utmost energy of all during a number of years, and a certain reaction was bound to set in.

I think that these difficulties have been overcome by now and that wherever individual performance is inadequate it is wise to look at the methods of supervision in some detail. Day to day procedure, and the level of understanding on the part of supervisors may vary considerably. In our experience a good manager's efforts to increase efficiency, after mutual consultation, are hardly ever frustrated by resistance from the workers. Neither workers nor office personnel like to work long hours, but whilst they are on the job they are generally willing to work. In our organization we are always in a position to compare conditions in different countries, and it is remarkable—perhaps to many this may be unexpected — that in our experience of European countries we have not found any important differences between the workers of various nationalities as far as willingness to work and potential performance are concerned. Generally speaking, there are two motives for workers to accept production study, namely that it saves energy and that it brings in extra money.

It follows that the worker must be guaranteed that his wage will be maintained even if the amount of physical effort required is less than was necessary before the improvements were introduced.

NEED FOR FULL UNDERSTANDING

The acceptance by all concerned of these work tasks is vital and can only be achieved by explaining in detail to everybody exactly how the measurement of them has been arrived at. To achieve this it may be necessary to hold classes of selected keyworkers to explain the various measurement techniques. No trouble is too much to take to ensure full understanding. When the production is organized on the new basis, everybody should feel that the work has been made more attractive with a saving of physical effort.

The time taken to complete a production study in a factory to the point of establishing the new "normal" varies in accordance with the complexity of the operations to be studied, the amount of time that the management can spare from day to day operation, and the degree of confidence that exists between the management and the workers; but in no instance can it be done quickly. In a medium sized factory, say one employing 500 workers, a minimum of twelve months is required. At least half this time is devoted to establishing basic understanding of the methods to be used and the objectives that are sought to be achieved.

"NORMAL" PRODUCTION AND INCENTIVE SCHEME

A production study can stop at the stage where work tasks have been set in relation to the improvements in layout, equipment and organization, and in many cases it does. This "normal" can also form the starting point for a soundly-based incentive scheme, acceptable to both workers and management.

From 1945 to date production studies have been initiated in eighty-two factories throughout the United Kingdom and the Continent. In thirty-nine of these the study has not yet been carried beyond the establishment of the "normal"; in the remainder, incentive schemes have been introduced.

Proportionately, the number of incentive schemes introduced is much less in the U.K. than in the other countries. This is due to the fact that we started rather later to build up the necessary expert personnel. On the other hand in some Continental countries there has been a more positive pressure from the worker for the introduction of incentive schemes as a means of bringing his wage packet up to an adequate level, direct wage increases unaccompanied by increased productivity being in many instances prohibited by decree.

The introduction of an incentive scheme once the "normal" has been established is relatively simple since the measurements on which the incentive is to be based have been already established and the method of recording set up. As a rule, a few weeks suffice. The principle is that the worker receives the full benefit of the reduction in labour cost per unit resulting from output in excess of the "normal". The Company benefits by the reduction in the overhead element in the cost arising from the higher output. The Company bears the additional cost of the clerical expense necessary for the recording. In the main, incentive schemes result in increases in output and workers' earnings of about 20 per cent.

Generally speaking, incentive schemes are based on groups of workers rather than individuals. The groups should be small enough to keep every member informed and interested.

WHEN "NORMAL" MAY BE CHANGED

I shall not dwell upon the details of our incentive schemes because they vary with the character of the work. The point I want to emphasize is how essential it is for the workers to understand the technique of the system and to accept it whole-heartedly as being fair. The same point has already been made in relation to the establishment of the "normal". The operation of the incentive schemes requires the continuous attention of management. In the course of time as conditions change it is necessary to alter the "normal", and this must receive close attention. The change can be in either direction. For instance, if substandard material has for some reason to be handled the operator must not be penalized and so the "normal" has to be reduced. On the other hand, if better machinery is installed, the "normal" will have to be increased. It is extremely

important that nothing be done to undermine the workers' confidence in the real aims of the incentive plan. Much of the disinclination of workers to accept incentive schemes has been caused by fear that the rates may be cut as higher performance is achieved. For this reason we do not alter the "normal" unless some change in the equipment of the unit or in the character of the material makes it necessary. Technical improvements increase the output per man without any extra effort from the worker, and it is not reasonable that gains thus obtained should go to the worker in the form of bonuses.

SCOPE OF SCHEME

It is generally desirable that incentive schemes should be introduced to cover as large a proportion as possible of the workers engaged in a unit at the same time. This is desirable operationally, otherwise the harmony between the outputs of related departments would be disturbed. Moreover, it is not desirable to give the opportunity to one particular group of workers to enhance their earnings unless similar opportunities can be given to the others.

This raises a further point, namely, that there are some operations in a factory which do not lend themselves readily to inclusion in incentive schemes based on the output of the operators immediately concerned — maintenance workers being a good example. The difficulty with these non-standard work tasks is to measure them satisfactorily and to record them without excessive cost.

Speaking generally, we believe that an incentive scheme should not be introduced unless 50% of the workers can be brought within it. For it to have the best chance of success, we believe that it should comprise 75%. Whatever percentage of workers can be included, the problem of what to do about those not covered by an incentive scheme must be faced. There are various alternative methods of increasing their earnings. The method selected should obviously provide for their earnings to increase, but not out of proportion to the earnings of those covered directly by the incentive scheme.

The main points which I have indicated as having been brought out by our experience so far, are:

(i) **Production studies cannot be done quickly, for it is essential that they should be thorough. The methods to be used and the objectives sought must be made clear to, and accepted by, management and worker. This demands a great deal of patience.**

(ii) **Production studies require specially trained personnel. Once a plan has been introduced a specialist must be appointed to each unit management.**

(iii) **Above all, the first priority must be given to the maintenance of complete confidence between management and workers, without which satisfactory results cannot be maintained.**

From time to time figures of productivity of individual industries are published — in particular making comparisons between one country and another. Operating as we do in a large number of countries it can be rightly assumed that we are well placed to provide data of this kind for the industries in which we are engaged, but in fact such figures — although no doubt of general interest to the economist — have little direct usefulness for the industrialist. His task is to produce at the lowest cost units of output which are saleable.

Theoretically, we could increase our productivity in England and Holland if we adopted the larger units of sale that are prevalent in the United States. To give one example: the average unit of sale to the consumer of the leading brand of packaged soaps in the U.S. is 23 ozs. per packet; whereas in England it is 7 ozs.; and in Holland it is 9 ozs.

In all cases the packing operation is done by machinery, the output of which is determined not by the weight of the throughput but by the number of units that have to be produced. It is therefore not practicable to obtain the same productivity per ton of output in England and Holland as in the United States until the standard of living rises to a point which permits the consumer to buy in larger units.

Again, as we have already pointed out, the degree of mechanization has a large influence on productivity, but the practical limit of mechanization is determined by the all-in cost. So it follows that the greatest opportunity to mechanize effectively exists in countries where the general wage level is highest. It is a fact that the wage level is higher in the U.S.A. than in England and Holland.

For these reasons — and there are others — productivity figures by themselves are not a true criterion for measuring efficiency between one country and another. We do believe that it is valuable to study the methods by which high productivity is obtained in different countries and then to see how far they can be applied elsewhere under differing conditions, and that is what we are attempting to do. By so doing, we shall in the course of time make a contribution towards raising the standard of living in all the countries in which we operate.

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Productivity Standards —Warehousing

By S. STOKES TOMLIN

Distribution Engineer, Marketing, Shell Oil Company

The Distribution Study Committee:— its purpose, policies, techniques and achievements.

OVER THE DELAWARE RIVER at Trenton, New Jersey, there's a bridge with a big sign on the side. The sign reads: "Trenton Makes —The World Takes". That's a catchy slogan, and I give all credit to Trenton for thinking it up. The first part is all right. Trenton is a big manufacturing center. But the second part of the sign I'm not so sure about. If you know anything about competition in American business, you know as well as I do that the world doesn't just take. It sits back and looks the manufacturer in the eye, and it says, "Okay, Bud, you made it; now make me take it. I want round-the-clock delivery and de luxe service".

And the manufacturer, in Trenton, and everywhere else, does his level best to fill the bill and still keep the price of his product at a level people will pay. He goes out and buys raw materials at the best figure he can wrangle. He then turns the raw materials into finished products in his factory—and you can be sure that every production line cost is under his closest scrutiny. But once the product leaves his factory door—once it enters that confusing world of distribution, peopled by distributors, jobbers, warehouse operators, truckers, railroaders, accountants, credit men, advertising men, retailers, and a lot more —then many a businessman shrugs his shoulders and lets costs run where they will. He accepts without question the startling fact that, on the average with all consumer goods, it costs as much to distribute goods as to make them. In other words, about half the retail price of consumer goods in general goes to pay for distribution. The rest is for production.

That leads us to the conclusion that too many businessmen are paying too little attention to distribution, which is precisely the case. Maybe it's not surprising, however; the broad view of distribution is not very old. It has been shaping up fast during the past decade or so, and a lot of men in industry still aren't ready to accept it — thousands probably haven't even heard about it.

And what *do* we mean by distribution? Just this. It's the sum total of all operations involved in moving finished products from the place where they are made to the place where they are used — factory to consumer. It's a bigger job than it looks. If you take only the main phases, you get seven basic functions: transportation, warehousing, marketing (wholesale and retail), advertising, and a good part of research, engineering, accounting and finance.

Distribution — the sum of all these jobs — is what it takes to make the *world* take our products. The world is paying a fancy bill for the service — and so are we. Right now, distribution costs the American consumer about $90 billion a year.

If that figure on distribution costs doesn't seem important, I suggest you look at it in two ways. First, think about the development of American business. The key to the story is production — mass production. And the result has been efficiency — the greatest efficiency ever known. Oil refineries that used to make four or five products from a barrel of crude now make over 1200. Shoe factories are making shoes 16 times as fast as they used to. Automobile manufacturers have progressed so far that if they were still using methods they used in the early 1900's, the average car today would cost $60,000.

Now, what does that mean? It means we've concentrated on manufacturing. We've gone at it scientifically and we've done a terrific job. But can we improve as much in the next 50 years as we have in the past? Barring some radical change — such as the use of atomic energy — I doubt it.

With that background on the manufacturing side, let's look at distribution costs. Suppose you're handling a highly competitive product, such as gasoline, or bread, or soft drinks. You've streamlined your manufacturing to the nth degree. So have your competitors. You know your production costs down to four decimal places. So do your competitors. But you're not too sure how costs break down in the distribution end. And neither are your competitors, as far as you know. Then one day you wake up and find that a competitor has cut his unit warehousing cost by fifty per cent — or his direct selling cost by 30 per cent. Think you'd be interested? You would.

And that's the road we're going — toward more efficient distribution. It's the only way we can go. As I said a moment ago, it's not likely we can make any further big cuts in manufacturing costs. Materials, labor rates, and taxes are high and seem to be going higher. We must turn now to distribution, where the big problems lie. And we'll solve them as we did before — by putting science to work. Keep your eyes open for the next few years and you'll see the trend shaping up. We're heading into a new era in business. Years ago, science went to work inside the factory and gave us mass production. Now it's going to work on the other side of the factory gate. And as sure as two and two makes four, the next fifty years will become the age of scientific mass distribution.

Bringing that age into being will take a lot of time and a lot of work. So far,

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Adapted from a paper presented at the annual 1950 ASME meeting.

we've only scratched the surface of the job. But the start we have made proves that the job is worth doing. The strongest proof I have found is in the progress we have made at Shell in analyzing and controlling distribution costs.

Quite a few years ago, our management, like the management in many other industries, became concerned about rising costs. The price of crude oil had gone way up. It was costing more to build new plants and buy new equipment than ever before. There was also some natural concern about the increasingly competitive market, which had put a brake on income.

This well-known state of affairs had come about with the growth of the industry and the broad changes in the economy as a whole. At the turn of the century, labor was cheap, pipe and other materials were cheap, so crude oil was cheap. Gushers were permitted. Flares roared in many a field. Oil was running almost like water, and production ran far ahead of demand. In a set up like that, costs were not too important.

The years since then have brought big changes. Conservation has risen high on the list of management responsibilities and interests. Now we use petroleum far more efficiently and thoroughly than we used to. Today we make hundreds of products from petroleum components we used to throw away or burn as waste. We have been through a war, a boom, a depression, another war and a period of amazing growth. The oil industry has had to expand greatly in the face of rising demand for products. At the same time, the oil industry has had to find ways of meeting higher costs. For every gallon of product we sell today, we spend more on exploration and production, manufacturing and distribution than we used to get wholesale for that very same gallon.

The changes came about gradually, and Shell management saw them coming. Management also saw that the best way to meet the changes and survive in tough competition was to find places to cut costs. We knew how much it cost to find oil and get it out of the ground. We knew the price of new construction, the costs of running pipe lines and refineries. Because these things had been done so scientifically, they offered no big chances for major savings.

However, there seemed to be room for improvement in distribution. Our knowledge in that field was not as clear as in the other parts of the business. No one knew *exactly* what it cost to move a unit of any product from the refinery through the depot to the ultimate consumer. We knew the total was high, but we did not know how it broke down into specific costs for clerical work, warehousing, truck delivery and so on. It was impossible to tell where savings could or should be made.

But that's just what we had to know. In order to get the answers, Shell formed a Distribution Study Committee. Members were the Chief of the Marketing Research and Analytical Department, the superintendent of Marketing Operations, a representative of the sales department, and the Distribution Engineer.

The Committee's first target was not to cut costs — but to find out what they were. The objective was to get full information on all distribution expenses — how much it cost to receive that unit at the depot . . . to warehouse it . . . get it out of the warehouse . . . move it to the customer. This meant the committee had to work out ways of measuring exact costs for such things as supervisory work, yard labor, clerical work, truck operations performed by our own trucks as well as by outside trucks, rental or amortization, taxes, utilities, and all semi-fixed or fixed miscellaneous expenses.

The Committee had one big advantage . . . or obstacle, depending on how you looked at it. They were completely on their own. They had no guide. There were no preconceived ideas to sway their thinking. The job simply had never been done before.

Late in 1948, the Committee met for the first time and drew up a plan of attack. First, they decided exactly what information they would go after and how they would present it. Then they agreed to run their study in the most typical marketing division they could find.

They chose a fairly large midwestern territory — Ohio. There were three reasons for the choice. First, transportation facilities in the area are a good cross section of our facilities nationwide. Second, the Cleveland division is close to average in its volume of sales to motorists. And third, the area has a good balance between farm and industrial markets. The Committee believed that if the study worked out well in the Cleveland division it could be used in others.

Preliminaries lasted about six weeks. The study actually got underway on February 16, 1948. The approved plan called for research along two main lines. The first was a study of distribution costs from refinery to depot. This was like any transportation and supplies problem in any company, and it was not too hard. It was just a matter of getting the cost of moving a unit of any product by railroad, pipe line, water or truck from all supply points — Pacific Coast, Eastern seaboard, and Gulf Coast — to Dayton, which is one of the main receiving points in the Cleveland division. These costs were easy to compile.

The second line of study covered costs inside the depot and from depot to the customer. This was far more complex than the other because it involved many more people doing many more jobs. We did it by breaking down all the depot operations into five main categories. Then we set up a job analysis form for each man in each category.

The first group included supervisors and assistants. For them, we set up time study sheets designed to show three things: (1) time spent on administrative and office work, (2) time spent in connection with truck operations, and (3) time spent with plant and warehouse operations.

The second group included the clerical force — clerks, truck dispatchers and cashiers. Their time sheets were a little more detailed. They were set up so as to record the exact amount of time each man spent on the forms used for each product. The sheets even had space for phone calls — which were charged against specific products and even against specific types of containers, when this could be done.

The third category included yard and warehouse personnel — the men who work on the loading racks, where trucks are filled with products, the maintenance men and warehouse personnel. For this group we drew up time sheets with spaces for time spent on loading racks, on yard maintenance, on receiving, storing, and shipping products, on the handling and filling of empty drums and so on. As with the other categories, these time sheets charged every minute of

work to a specific product.

In the fourth category were truck drivers. Here, the forms had two main subdivisions. First, for different types of trucks — flat bed or stake trucks and the several types of tank trucks; and second, for the time spent in moving each product.

The fifth category covered depot mechanics — the men who keep the trucks going. Their time sheets showed the various types of trucks and the time spent taking care of each. The sheets were also set up so as to relate time spent on a truck to specific products. In this case, however, we were concerned about types of products rather than unit quantities. With these reports, we could work the costs for maintenance back to any truck we chose and so find out which were giving the best results.

Once we had these forms all set, members of the distribution committee took them to 10 depots in order to introduce the project and explain the forms to depot personnel. This was a tremendously important part of the program.

You don't have to be a personnel expert to know that a man is likely to get suspicious if a brass hat from New York hands him a big, complicated sheet and tells him to account for every minute of his working day. Our first job was to kill any doubts the forms might raise in the minds of employees.

We did it by laying all our cards on the table at the very start. We told them what the forms were all about — why we were making the study — why we needed their help and how the study would help them if it were done right. We wanted to get set for tougher competition in the days ahead, and the better we could meet competition, the better off the employees would be. It was as simple as that.

To prove we weren't trying to spy on anyone, we passed out the forms and asked each man to let his conscience be his guide. We did not check up on anybody. And we told them we didn't care about time they spent for coffee or smokes. All we wanted was an accurate record of the time they spent working with each product in an ordinary day. Time that wasn't accounted for on the sheets we simply prorated against the total gallonage handled by the depot.

By going at the job with everything open and above board, we got wonderful cooperation — I'll tell you more about that in a minute.

Once the forms had been explained to the employees, we passed them out and the study was actually underway. We decided that the time sheets should be kept for one month. Any longer period — though it might seem desirable as insurance for greater accuracy — would put too big a load on the employee.

In addition to setting up the employees' time study, the distribution committee made its own check of the paper work done in the depots. They made a step-by-step breakdown of all the forms used in handling all products — aviation gasoline, motor gasoline, diesel fuel, lubricants, heating oils and so on. In order to be sure they had a representative sample of the work, the committee ran this study a full three months.

Some of the results were surprising. In one depot, for example, it turned out that the average unit of paper work "moved" 260 gallons of automotive gasoline — but only 17 gallons of lubricating oil. In another depot, one clerical or paper work unit accounted for the sale of 106 gallons of gasoline, and an equal clerical unit moved 48 gallons of lubricating oil. The reason for the second depot's better performance in lube oil was that the depot supplied a big industrial market, where the demand for lubricants is naturally heavy.

Once we had developed figures for the time spent on paper work we could easily figure the clerical costs in all the depots for handling any class of product.

Now, so far, I have talked specifically about only two parts of the depot study — the job analysis for employees and the evaluation of paper work. These are important — and for the purpose of this talk, they are probably best examples because they are easy to describe and easy to visualize.

But they don't tell the whole story. Before the job was done, we made broad surveys of the plants, checking all kinds of costs, studying areas that the time sheets and form analyses did not touch. In general, these costs included all the depot's fixed and semi-fixed expenses — telephone bills, taxes, water, gas, electricity, garbage or trash disposal and so on. Any cost over one cent went into the record. Then we assigned a per cent of the cost of each plant to the volume of product the plant handled. In order to keep all parts of the study within the same frame of reference, we ran this broad check during the same month for which the employees compiled the time studies on their own jobs.

After the data had been compiled, the time sheets were sent to the IBM section for recording on cards. With the card system set up, we could easily pull out any information — any combination of facts we wanted.

Here, I'd like to inject a little comment on the employees' reaction to the survey. The study began in mid-February. By the 15th of April, all the sheets had come in. All told, the employees in the various depots were in direct touch with the study for not more than three months — and most of them for only one. Yet even now — more than two years later — we are still getting questions from depot people about the survey. Instead of being annoyed by the job analysis, they were interested. Several men who had worked for Shell ten or fifteen years before we made the study have told us that it had shown them some new tricks. It made them think a little harder about their jobs — and they enjoyed it. Many of them suddenly found faster and easier ways to do jobs they had been doing the same, slow way for years. The result was a new interest in work and new pride in doing it better.

Now, with all the information on hand — and put on IBM cards for convenient use — the distribution committee began a three-week's session in the Cleveland office. The purpose was to recap all the information and get it on to one big master sheet that showed the following: job by index, work code, telephone cost of each product, cost of billing each product to customer, cost of making daily depot report to division office, cost of collections and adjustments for each product, cost of order forms, daily stock reports, perpetual inventory, direct labor cost, invoice time, cost of each truck driver's trip load and collection report, cost of dispatching each truck, and other miscellaneous time costs.

When the master sheet was finished, we had moved a long step closer to knowledge of the costs in moving products from origin at a refinery to the customer. Better still, we were on the track of costs in terms of the various jobs required to move the products.

As for the broad results, I suspect you have already guessed them. In general, the study served as a magnifying glass

big enough to cover our whole distribution system from refinery to customer. And when it was properly focused it showed us the weak spots — the places where we could and should concentrate efforts to cut costs and improve efficiency.

There is not time here to list all the results in detail, but I should like to give you a few specific results in order to show just what sort of information the study produced.

First, in all ten depots, it appeared that oils can be drummed cheaper at the depot than at a distant refinery.

Second, it is impossible to give a packaged product a "free ride" on the side rack of a tank truck. The most efficient way to deliver packaged products is in stake trucks.

Third, too much paper work was being done. Some forms should be consolidated. Others should be dropped altogether.

Fourth, the smaller the package the higher the distribution cost. The most efficient way to distribute products is in tank wagon lots. It is cheaper to move products in 55-gallon drums than in cases or five-gallon cans. The Davis can, or small pail, proved to be the most costly of all packages to distribute.

Besides leading to specific remedies, the cost survey has lent itself well to another part of our long term program for putting science to work in distribution. About two years ago, the company selected a typical depot in each of 17 marketing divisions and set it up as a pilot plant. Each depot was made a model of efficiency in distribution. Storage and warehousing methods were completely modernized. Truck routing and dispatching, clerical procedures — every phase of the plant operations was boosted to the highest possible efficiency. Then the plants were used as training centers. At first, they were used to show local personnel the best ways of doing their jobs. As these people learned the better methods, they, in turn, were able to train others from other depots and so on.

The logical tie-in between the pilot plant depots and the distribution cost study became obvious early in the survey. Now, besides serving as training centers for personnel, the pilot plans are also doing valuable duty as proving grounds for new techniques in distribution — and as ideas are tried and adopted or turned down, the people in the plants can learn first hand the right and wrong ways of distribution. As a result, the merger between pilot plants and distribution cost study has both an immediate and a long term value.

At the beginning of this talk, I said that so far we have only scratched the surface in our effort to build a system of really scientific distribution. I think I can say, without too much immodesty, that this study and other projects Shell has conducted, have put us pretty well out in front of the field. But what I said about having just scratched the surface still holds. The distribution cost study, for example, was a big job. It involved a great many people, and it took quite a lot of time. But there's still a lot to be done.

We still do not claim to have the final answers. We are not ready to say that it costs exactly this much and not a cent more or less to move product A from X to point Y. But we think we have some good guides for our next moves. And during the next year or year and a half, as the cost studies are continued and more facts and figures come in, we'll be even closer to the accuracy we'd like to have.

However, there's one pitfall on the road to scientific distribution. It has to do with the basic difference between science and distribution. As things go in this changing world, science is pretty exact. As engineers you can all appreciate the liberty I take in using the word "exact"—but you'll agree that the basic laws of science are pretty firm. The principles of thermodynamics are as true today as they were twenty years ago. Distribution, on the other hand, is not exact. It can't be. It includes the whole realm of marketing and so is subject to the ill-defined and unpredictable tides of our economy. It is changed by international affairs, domestic business, even by the weather. Consequently, we can apply engineering—which is stable—to distribution—which is not—but we cannot pretend to come up with answers that will be good forever.

As I said earlier, we must put scientific principles to work in distribution, but we must also remain flexible enough to change with changing times. If we're going to do the job right, we have to remember our engineering and at the same time keep our eyes on economic variables—labor rates, material costs, allocations of materials for mobilization and so forth.

Now, does this mean that we must run perpetual distribution cost studies? No, it means nothing of the sort. That would be like spending a dime to save a nickel. Management wouldn't put up with it, and no one in his right mind would expect them to.

The way to keep abreast of changing conditions in distribution is to make periodic checks within the framework set up by the original broad study. The method we've used to measure our costs is extremely comprehensive, but it is also highly flexible. And we have set it up so that we can use all of it or part of it anywhere or anytime we want. From here on, we can run spot checks every so often at various plants to be sure they are running efficiently. If the results are all right, the spot check is all we need. If the check shows us that a weak spot has developed, we can run a more detailed test to get the facts we need in order to straighten things out.

That, in brief, is the story of our Cleveland Distribution Cost Study. The company has been so well pleased with the results, that it has decided to continue the study on a long-term basis. The Distribution Committee has been made a permanent part of the Shell organization, and the distribution engineer has responsibility for the committee's program.

In an article of this length it's impossible to do much more than outline the project. To those management men who would like more information in order to set up similar studies we offer all the help we can give.

The job has been interesting—which is a strong point in its favor—and it has already paid off. We are convinced that it's a start in the direction that all business should go. If we are going to do our jobs right in the years ahead, we must move our engineering techniques out of the factory and down the line toward the individual consumer. What we need is an intelligent blend of engineering stability with economic variability. When we get it we'll have the age of scientific distribution — more efficiency for industry and better service for the public whose needs keep industry alive.

SOCIETY NEWS

THE MONTREAL CHAPTER is holding its second annual one-day Industrial Engineering conference on March the 30th, 1951, at the Mount Royal Hotel, Montreal.

The general theme of the conference is "*Engineering a Profit Path.*" Such well-known speakers will take part as: Mr. Fred V. Gardner of Fred V. Gardner & Associates Industrial Management Consultants, Mr. R. Conrad Cooper, vice-president of the United Steel Corporation of Delaware, Mr. F. R. Larrabee, vice-president of Cincinnati Industries Inc., and Mr. William K. Hodson, manager of Engineering for Methods Engineering Council.

Further details are available from W. B. Hewus, Secretary and Conference Co-ordinator, % Dominion Rubber Co., Ltd., 1806 Notre Dame Street, East Montreal, Quebec.

THE GREENSBORO CHAPTER held their December meeting at the Martinsville Nylon Plant of E. I. du Pont de Nemours Company, Inc., in Virginia.

In November they visited the Tomlinson Craftshops at High Point, North Carolina. Following the visit J. Sterling White, Tomlinson's chief engineer, was discussion leader at the Chapter's dinner meeting on "Motion Economy."

UNIVERSITY OF MICHIGAN Survey Research Center announces its Fourth Annual Summer Institute in "*Survey Research Techniques.*"

The regular session of the Institute will be held from July 23 to August 17 with an introductory session from June 25 to July 20, 1951.

This Institute is designed to meet some of the educational and training needs of men and women engaged in business and governmental research or other statistical work, and graduate students and university instructors interested in quantitative research in the social sciences.

Nominations for 1951-1952

The Society's Nominations Committee has not been able to present a slate of nominees for the Offices of President, Executive Vice President, Secretary, and Treasurer, in accordance with and within the time limits prescribed by the Laws of the Society. Accordingly, in the opinion of counsel and of the Directors at the Board meeting of February 3, it is necessary to resort to the only alternate method offered by the By Laws for proposing nominees. This alternative provides that at the Spring meeting (April) any ten Directors may propose nominees. Thereafter, the Board will, by mail ballot, elect the Society's officers to serve for the ensuing year.

THE CENTRAL NEW YORK CHAPTER reports "standing room only" at its recent dinner meeting on "*What Management Has Learned From the Recent Strikes in Syracuse.*" Participating in the panel discussion were top management representatives from Crucible Steel, General Electric and Solvay Process—each company having recently undergone a strike.

In a return meeting, equally successful, the top labor representatives of the companies concerned presented their views.

THE TRENTON CHAPTER featured Phil Carroll in a round table discussion on "*Time Study Technique*" at their February meeting.

Two meetings in January on the subject of "*Leadership*" presented Carl Haas, Factory Manager, Stokes Molded Products, and Walter Gutermuth, Production Superintendent, John A. Roebling's Sons Co.

NEW YORK CHAPTER'S February meeting presented their Second Annual "*Careers Round Table*". Speakers included: Forest Lombaer, Assistant to the Vice President for Personnel and Industrial Relations, R. H. Macy & Co., Inc., Robert A. Whitney, President, National Sales Executives, Inc., and Dr. Earl G. Planty, Executive Counselor, Johnson & Johnson.

THE DUQUESNE UNIVERSITY STUDENT CHAPTER held their first all day conference at the William Penn Hotel, Pittsburgh, Pennsylvania, on March 8.

The conference theme, "*Progressive Trends in Management,*" was presented by the following speakers: Dr. Lillian Gilbreth, author, lecturer and consultant; Mr. R. Conrad Cooper, Vice-President of Industrial Engineering, U. S. Steel Company and President of the Pittsburgh Chapter of SAM; Mr. Ralph C. Edgar, Personnel Director, Allegheny Ludlum Steel Corporation; Mr. Donald D. Munroe, Vice-President, Thompson and Company; Mr. Fritz Marx, Staff Assistant to the Director, Bureau of the Budget, Washington, D. C.; and Mr. John T. Ryan, Executive Vice-President, Mine Safety Appliance Company.

ROGERS & SLADE, the management consulting firm, announces the admission of Mr. Lee H. Hill as general partner. The firm style will be changed to Rogers, Slade & Hill.

Mr. Hill is well known in the field of Industrial and Labor Relations. He is author or co-author of a number of books, including *Pattern for Good Labor Relations* and *Management at the Bargaining Table.* During World War II he served as Industry Member of the National War Labor Board.

Emerson Trophy Standings
Chapter Performance Award
As of January, 1951

CHAPTER	TOTAL
Washington	1238
Milwaukee	1113
Greensboro	950
Detroit	915
Philadelphia	872
New York	788
Pittsburgh	728
Cincinnati	569

Chapter Officer Conclave Minutes-Midwest Area

Prepared by MILO M. HAFFNER, Acting Secretary

THE National President, Dillard E. Bird, opened the Conclave with a discussion of Chapter organization. He reviewed the National Organization by stating that there are five National Officers. The President, who is the operating head; The Executive Vice President, who assists the President; The Secretary, who maintains records; The Treasurer, who takes care of the finances, and the National Director, who is the liaison between the National Office and the various Chapters. He suggested that local Chapter organizations follow somewhat the same pattern. He stressed the importance of each Chapter holding its election in April and immediately forwarding the results to the National Office in order to allow them time to make the necessary changes in their records for the coming year. The matter of incorporation was discussed and while only a few of the Chapters were incorporated, it was brought out that this is advisable for two reasons. One, to protect the seal and the name of the Society in the State in which the Chapter operates. Two, to release officers of the financial obligation incurred by the Chapter or liability incurred due to personal injury.

President Bird asked for a report from each Chapter represented, showing what activities they conduct during the year.

THE DETROIT CHAPTER reported their program was directed toward the desires of the majority of the membership and was on diversified subjects. These included Plant Visits and Forums. They also send out a questionnaire once a year in order to help in planning their future program.

INDIANAPOLIS reported that they followed much the same program as Detroit with the exception that they conducted two Conferences a year and at one of these Conferences, presented a citation and award to an individual in the area who had contributed in an outstanding way to the advancement of management in the past year.

CLEVELAND reported their program is very diversified, directed toward all levels of management. They presented last year an outstanding clinic and this year are contemplating adding a series of round-tables based on Harvard Case Studies.

MILWAUKEE reported their program was divided between Top Management and Industrial Engineering fields. They also conducted Plant Visits and made a Junior Achievement Award to a Company in their area which they felt had done an outstanding job in the field of management during the past year.

LOUISVILLE reported their programs were mainly directed at the general management level. They have had no Conferences or Round-tables but have been conducting a series of forums.

CHICAGO meetings were directed at all levels of management and in addition to their conference each year they are holding very successful clinics at the various universities in that area. They also reported that Personnel topics and Sales topics were not received well by the members of their Chapter.

ST. LOUIS reported that only Industrial Engineering subjects drew well. This year they plan one half their meetings directed to broad management levels and intend to use plant visits to replace some of their regular meetings.

President Bird summarized by saying, it was brought out at the New York Conclave, that the monthly meetings are a *public* service feature and panels, forums and plant visits are a *member* service feature. He pointed out that in general, good Chapter programming will be had if sufficient advanced planning is made and speakers and subjects are not selected on a month by month basis. He also said that monthly meetings, to be effective, should be timely and he closed by saying, "If you have a program that justifies attendance, you will have attendance."

President Bird made the following suggestions about securing speakers. He said that it was not necessary to have a name speaker but the speaker must be effective. He should have something to say and be able to say it. If the speaker is invited by letter, extreme care should be taken in writing the invitation. It is believed that the use of the telephone in securing the speaker is well worth the expense of a call. It gives you an opportunity to switch dates for the speaker if he cannot make the date suggested, and answer any questions that might arise in his mind prior to his acceptance of the engagement.

It is also important to get information on the speaker and his topic to be used for publicity. We must not overlook public relations value to the speaker and to his Company when extending the invitation to the speaker. It is well to follow up with the speaker to make sure that the engagement has not been overlooked a few days prior to the meeting. It is very important to show courtesy when inviting a speaker by suggesting that you will be glad to make hotel reservations or meet him at the train or make other arrangements for him while in your City. It is also advisable to send newspaper clippings or a report to his Company, expressing your appreciation for his being there. It is also helpful to keep a record of speakers who cannot accept an engagement and turn this information over to succeeding officers who will be able to use it for other meetings. The selection of a few key local speakers to be available as a substitute in the event of a late cancellation by any one of your speakers is advisable.

MEETING ARRANGEMENTS

Meetings should be held on regular dates, preferably always on the same night of the week. Conflict should be avoided with other related groups. Facilities should be provided, such as a podium and a public address system if required. It is important that these facilities be checked in advance of your meeting date. Be sure that an atmosphere of friendliness and hospitality prevails at all meetings.

It is important that adequate facilities be set up for registration at each meeting. This may be done by securing registration in advance or by making sure that there are ample facilities for handling the size crowd expected. Registration cards are very valuable in securing prospective members from guests who have attended meetings. It is suggested that personal calls be used in inviting guests to be members rather than letters. Several Chapters reported that they have increased their Chapter membership considerably by the use of an active campaign on these registration lists. Some Chapters have included their membership fees in the cost of the Conference. President Bird pointed out that 70% of the Companies pay membership and cost of meetings, according to a recent survey of 100 Companies. It has been found that working from the top down in Companies gets far better results than working from the bottom up and it is suggested that Companies be encouraged to underwrite the cost of membership and meetings.

PUBLICIZING ACTIVITIES

It was agreed that newspapers are not too effective as the only means for publicizing regular meetings. Their value is best used for long range Chapter publicity. Meeting notices should be sent out ten days to two weeks prior to the meeting. Many mailing lists were found to contain the names of inactive people and it is suggested that a very careful review be made of the mailing lists. Most Chapters send out one page notices of the regular monthly meetings. Some have return cards but the consensus of opinion was that these are not too effective. Contacts by phone are believed to be the most effective. For special meetings, follow up cards will increase attendance. Notices of meetings should be mailed to the Dean of the schools as well as to the members of the Student Chapters. Some Chapters reported that they had used some of the large Companies to underwrite the cost of their meetings, announcements and mailing. Personal contact or telephone calls are far superior to any

type of contact for publicizing meeting activities.

It is believed to be far better to interest policy-makers in Industry by letter or calls from leaders in the S.A.M. Chapter in order to get the Chapter better known. Some Chapters have an advisory board composed of leaders in Industry who are non-members to help them develop their program. Some have an Advisory Board of Past Presidents to call on new industries. It is advisable to arrange a luncheon on the day of the meeting or Conference with leaders in Industry, members of the Press, Radio or Chamber of Commerce in order to acquaint them with what the Chapter is trying to do. The cost of this luncheon should be borne by the Chapter. This luncheon can be followed up in a few days with an invitation to belong or with an invitation to help sponsor some program of the Chapter. Editors of house organs in various industries can be made important publicity agents for the Chapter's activities. It is suggested that they be kept in touch with the activities in order that they may carry the program in their publications. Some Chapters sponsor advanced management courses for top management with local universities. It is also found advisable to let the newspapers know when and where the speaker will be prior to the meeting in order that an interview might be made if they feel he is of sufficient importance.

CONDUCTING MEETINGS

No Chapter business should be conducted at a regular monthly meeting. It is not necessary to introduce guests unless they are sufficiently important to have some publicity value. Some Chapters have different badges to distinguish members from non-members in order that members may have the opportunity of meeting new members and increasing Chapter hospitality. Meetings should not be too long and interest should not be allowed to drag.

SPECIAL ACTIVITIES

Plant visits have proven a splendid tool to interest top management. Most Chapters have only members go on plant visits. Regular meeting notices are sent out for these activities. All Chapters report plant visits are very well received by members and Companies alike.

SPECIAL INTEREST GROUPS

Some Chapters have reported fine results by securing non-members in an advisory capacity for advice on how the Chapter could better serve the area. These meetings need not be dinner meetings. Simply call some leaders of Industry in your locality for advice and they in turn will become acquainted with the aims and objectives of the Society. In many cases this results in increased membership.

RESEARCH

Very little activity is carried on by any of the Chapters on research projects. The consensus of opinion was, that there had been a lack of knowledge of what projects to pursue. President Bird pointed out that research activity can be one of great help to the Chapter and cautioned us not to attempt so much that it could not be done well. He also pointed out that a questionnaire was being sent from the National Office to determine what projects are of most interest. One project under consideration at this time is the Glossary of Terms in Industrial Engineering.

CONFERENCES AND CLINICS

There were a variety of Conferences and Clinics conducted last year by the Chapters. One type of Clinic was the One-Man Clinic, such as conducted by Ralph Barnes, and several reported it drew very well and was successful from a financial standpoint.

Another type of conference was one where three to a dozen speakers were gathered over a one or two day period. These were also reported to be successful although a considerably greater amount of work and financial obligation was incurred in conducting them.

A third type of special activity reported was the Group Clinic type. Some Chapters conducted these large Clinics in cooperation with other societies or organizations in order to broaden the scope of the activity.

Most all agreed that a Conference or a Clinic does much to establish the Chapter in its particular locality. President Bird also pointed out that James Bailey of Dupont and Fred Gardner also have conducted One-Man Clinics, similar to Ralph Barnes, which were very successful. He also pointed out that there are several American Management Association Work-Shop men who conduct very good clinics of this type.

MEMBERSHIP

The success in starting a new Chapter generally hinges around the selection of one man of standing in a community who has the desire to promulgate the objectives of the Society and who can and will call a meeting of heads of businesses to meet with the sponsor's Chapter heads.

National President Bird reported that a Brochure was mailed about October 15, to 4,000 heads of businesses in the United States, acquainting them with the purposes and objectives of the Society. He felt that now would be a splendid time to start active membership work. There has been some belief in the past that the Society is composed mainly of those engaged in the Industrial Engineering field. A review of the national membership shows that only 25% of the members are Industrial Engineers, however some Chapters may have a greater percentage than this.

There has been a speed-up at the National Office in application processing which we believe will take care of the criticism in the past of the slowness in handling new applications.

CHAPTER DROP-OUTS

Most Chapters reported that they did not follow up delinquents as they should, which resulted in a high percentage of drop-outs. The National average for drop-outs of similar societies is around 15%; the National average for the S.A.M. is 30%. An analysis of various societies of like nature leads us to believe that cost of membership has little to do with the percentage of drop-outs, because some of the organizations having the highest cost of membership, report the lowest percentage of drop-outs.

CHAPTER FINANCES

Only one Chapter reported that they had a budgetary control set up for their various functions such as programs, conferences, membership, etc. It was generally agreed that this was an excellent plan and will no doubt find further acceptance in the near future by other Chapters. A few of the Chapters bonded their Treasurers if it was felt the situation warranted it. A discussion was held on the advisability of soliciting advertising for brochures or publications of the Society. If the advertising can contribute to the advertiser, it is desirable, but the soliciting of such advertising on a charitable basis was discouraged.

A discussion on registration fees for conferences was held and it was felt that some conferences were held at too low an admission charge, resulting in a financial hazard for the Chapter. An analysis showed that the admission fee had little to do with the attendance, i.e., a conference with a low charge for registration did not appear to draw any more attendance than a high priced one. What counts most is a good program and good speakers. Some Chapters included in their cost of conferences the membership fee and one Chapter reported that some 25 members were secured as a result of this combination at one of their conferences.

A question of whether a Chapter reserve fund should be set up, and of what amount, was discussed and it seemed to be the majority opinion that no set rule could be used for all Chapters and each Chapter should decide for itself.

CHAPTER AND NATIONAL ORGANIZATION

Several questions were raised in regard to the relationship between the National Organization and the various Chapters. One question was "What happens to the money sent to the National Office?" Another was, "What services can and should the National Organization perform?"; Another, "How can we better explain to members what service the National Organization provides?"; Another, "Should the National Organization have confer-

ences in the various areas outside New York City?" These questions stimulated considerable discussion and it was felt that Conclaves of this type would do much to further National Organization-Chapter relationships. It gives the various Chapter Officers the opportunity to meet with the National Officers and have a frank discussion of their various problems which will result in better representation for both parties. The difficulty in having a get-together of Chapter Officers on the National level as originally planned was discarded as a result of a questionnaire, sent to Chapter Officers, which revealed this was impractical due to the inability of the Chapter Officers to attend. A suggestion was made by Mr. Durham of the St. Louis Chapter that an executive committee composed of approximately ten people from all sections of the country be selected and be paid their expense by the National Office to attend the Board of Directors meetings. It was felt that a better National Organization-Chapter relationship should be had and President Bird asked that any suggestions that the Chapters might have in that regard would be given prompt consideration.

STUDENT CHAPTERS

National Vice President Ralph L. Jacobs reported that the Student Chapter set-up was very similar to the National and local senior Chapter set-up, with the exception that the Student Chapters have a historian. He informed us that Student Chapters can only be organized in colleges where they have a major in management. The new minimum membership required now is fifteen instead of ten. He reported a very good interest in S.A.M. by the students as evidenced by the fact that we had three Student Chapter representatives from De Paul University present at the Conclave.

The Sponsoring Chapter should and can help provide a list of speakers for Student Chapters. The importance of the publicity or recognition to the Company providing the speaker was stressed by several Chapters. Other Chapters reported an employment service for Student Chapters who are graduating in order to get them located in business. Some Student Chapters conduct one meeting a year for their Sponsor Chapter or the Sponsor Chapter has a Student Chapter Night at which time an effort is made to have a large representation of students.

President Bird thanked each officer present for their attendance at the meeting and the Host Chapter President, Mr. James Newsome, expressed appreciation at having been allowed to be Host Chapter to the Conclave.

Respectfully submitted,
MILO M. HAFFNER,
Acting Secretary.

Proceedings of The Annual Conference of S.A.M.

Hotel Statler, November 3-4, 1949

A complete copy of all papers, including charts, delivered at the Conference. Contents:

Increasing Productivity Through Better Methods
by H. E. BLANK, JR., Editor, Modern Industry

Why Neglect Incentives?
by PHIL CARROLL, Registered Professional Engineer.

Management Looks at the Break-Even Point
by FRED V. GARDNER, Fred V. Gardner and Associates

A Fair Day's Work
by DENNETT F. HOWE, Director of Industrial Engineering, The Procter & Gamble Company

Better Quality is a Tool for Competition
by DR. JOSEPH M. JURAN, Professor of Administrative Engineering, New York University

Sound Human Relations—The Only Way to be Competitive
by J. WARD KEENER, Vice-President, The B. F. Goodrich Company

Revitalizing Sales in a Competitive Market
by EUGENE B. MAPEL, Vice-President, Methods Engineering Council

Decreasing Costs by Increasing Unit Sales
by DR. HERMAN C. NOLEN, Vice-President, McKesson and Robbins, Inc.

How Work Simplification Helped Improve Our Human Relations Program
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The Management Bookshelf

Bonds of Organization — An Appraisal of Corporate Human Relations by E. WIGHT BAKKE, Harper and Brothers, New York, 1950, pp. 239, $4.00

THIS BOOK IS a report on one of a series of investigations in human relations in the Southern New England Telephone Company and the Connecticut Union of Telephone Workers. The investigation was carried out by the Yale Labor and Management Center, of which Professor Bakke is Director.

This particular investigation attempts to demonstrate basic principles of human relations in one of the most important and potent areas of personnel management today — that concerning the ties which weld a group of individuals together into the functioning team known as a corporate society. These ties are termed by the author as the "*Bonds of Organization.*" The book classifies the major bonds of organization into five kinds. It treats them one at a time in separate chapters which make up the body of the book. In each case there is a detailed discussion of the nature and function of the bond, together with results of extensive personal interview investigations of each in this company and union. The personal interview investigations are designed to test the strengths and weaknesses of these bonds in both company and union organization structures. All in all, 1500 such interviews were conducted with employees of the company, members of company management, representative union members, and officers of the union.

Those in management positions who read this book will find its chief significance in the basic interpersonal organizational principles developed throughout. The study is not easy reading, for it is often couched in its own terminology and definitions of terms, which characterizes the careful reporting of research works. It is also made somewhat difficult because of the specific functions and jobs in the telephone business which are brought into the discussion. However, Professor Bakke has been meticulous in defining and explaining such terms as may be unfamiliar to businessmen in general. The businessman who is concerned with human relations (and almost all are) should find it refreshing to review the basic principles pointed out in this study. It is too often that he is so bombarded with literature on the "gimicks," "systems," and "programs" designed to improve human relations that he may lose sight of the underlying nature of the "human relations" which he is trying to "improve."

Briefly, the five bonds of organization, which the book describes as devices that weld individuals into the corporate group are:

(1) **Functional Specifications:** These are the specific duties or activities which make up the individual's job, and which define his particular part in the organization's mission. This bond is often expressed as the "job description."

(2) **Status System:** This is the system of delegation of directive authority and representation. It is an important need of organization that some individuals be delegated authority to direct the work of segments of the team, and that they receive from those directed the authority to represent them in relations with others of authority. This is a particularly enlightening presentation of the dual function of supervision. It places a new emphasis on the importance of acceptance of supervisors by subordinates.

(3) **Communication System:** The place of communication of information in the proper functioning of an organization is probably the subject of greatest awareness and least understanding of all the bonds of organization discussed here. Various aspects of communications — including media, subjects, authentication, and timing — are studied and their relative effectiveness in the company and union organizations are reviewed.

(4) **Reward and Penalty System:** This is a discussion of the means which are used to create the will to accomplish among members of the organization. It is a highly stimulating presentation of what is perhaps the most important tool of management. The reward and penalty system is discussed in much wider terms than the usual "discipline" and "incentive" which are associated with it. Emphasis is placed on behavior and attitudes which act as rewards and penalties. Powerful but subtle aspects of supervisor-employee relationships are brought out very effectively.

(5) **The Organization Charter:** This is probably the least recognized of the bonds of organization. Nevertheless, it is a very real bond which exists in all organizations. It relates to the specific elements that characterize one organization as an entity differing from others. Aspects of the Organization Charter include: identification of the organization, purpose and function, reputa-

(*Continued on page* 28)

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